

ACCESS AND SHARING OF BENEFITS RESULTING FROM
UTILIZATION OF TRADITIONAL KNOWLEDGE
ASSOCIATED WITH GENETIC RESOURCES IN VIETNAM:
LEGAL IMPLEMENTATION AND LEGAL REFORM

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ベトナムの遺伝資源に関連する伝統的知識の利用から生じる利益へのアクセスと
共有：法の導入と法改正

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ABSTRACT

Traditional knowledge associated with genetic resources (TKaGRs) is no longer a newly emerging concept in both literature and practice. Likewise, the fight against Bio-piracy of TKaGRs dates back a long history in both academic forums and political agendas, ranging from local, national to global scales. In such a context, the access and benefit sharing (ABS) regime, which calls for access to and use of TKaGRs only with Prior informed consent (PIC) and Mutually agreed terms (MAT), has still been in its struggle to find an appropriate mechanism that may adapt to unique features of TKaGRs in one hand, and in the other hand, respond to desires of stakeholders fairly and equitably. While a global regime has still been under negotiation, there is an increasing number of countries that adopted or have established national frameworks regulating TKaGRs in the context of ABS.

This study aims to investigate the current situation of laws and practices regarding TKaGRs in the ABS context in Vietnam, based on which to propose solutions for future reform in the light of international requirements and experiences from other countries. Findings of the study reveal that, despite the richness of TKaGRs and the popularity of related ABS transactions, the governing framework is still in its infant stage. It is manifested through an inadequate framework with lack of a specific system specifying procedures and sequences for ABS related to TKaGRs, lack of a mechanism to recognize ownership over TKaGRs, and the conflicts between legal and traditional rights.

The study concludes that legal reform is of an urgent need to rectify injustice for TKaGRs holders while still promoting the utilization of TKaGRs in good faith for mutual benefits of stakeholders and of the society at large. As for recommendations, the study suggests a reform with the main focus on three substantive matters: the scope of protection, the ABS mechanism, and the roles of customary rules. Accordingly, the scope of protection should clearly define protectable TKaGRs, and scrutiny should be taken in extending protection to disseminated knowledge. It is also suggested to establish an ABS mechanism with the coherent, comprehensive, and transparent legal framework governing each stage of ABS processes, which guarantees the right to self-determination of TKaGRs holders and encourages their full involvement. In such contexts, customary rules are recommended to be incorporated into ABS rules, which defines the conditions of access to and use of TKaGRs as well as the manners to share benefits. As a facilitator for the ABS regime, TK register is also a recommendable approach to ensure the enforceability of the system.

要約

遺伝資源（TKaGRs）に関連する従来の知識は、文献と実践の両方ですでに、新規な概念ではなくなった。同様に、TKaGRs のバイオ海賊行為との戦いは、地方、国家から地球規模に至るまで、学術フォーラムと政治的課題の両方で長い時間続けられてきた。このような状況において、事前通知同意（PIC）と相互合意条件（MAT）のみで TKaGRs へのアクセスと使用を求めるアクセスと利益の共有（ABS）制度は、TKaGRs のユニークな機能に適応する適切なメカニズムを見つけるのに苦労する一方で、他方では、利害関係者の要望に公正かつ公平に対応することにも苦労している。グローバルな体制はまだ交渉中だが、ABS のコンテキストで TKaGRs を規制する国内の枠組みを採用または確立した国が増えている。

本研究は、国際的な要件と他国からの経験に照らして将来の改革の解決策を提案する目的で、ベトナムの ABS の文脈における TKaGRs に関する法律と慣行の現在の状況を調査する。本研究は、TKaGRs の豊富さと関連する ABS トランザクションの人気にもかかわらず、統治フレームワークがまだ初期段階にあることを明らかにしている。それは、TKaGRs に関連する ABS の手順を指定する特定のシステムやシーケンスを欠き、TKaGRs に対する所有権や法的権利と伝統的権利の対立を認識するメカニズムを欠く、貧弱なフレームワークを通じて現れる。

この研究は、法的改革は、利害関係者と社会全体の相互利益のために TKaGRs の誠実な利用を促進する必要がある一方で、TKaGRs 保有者の不正を是正する必要性が緊急に求められていると結論づける。推奨事項として、この研究では、保護の範囲、ABS メカニズム、慣習ルール役割という 3 つの実質的な事項に焦点を当てた改革を提案している、したがって、保護の範囲は、保護可能な TKaGRs を明確に定義する必要がある、普及した知識に保護を拡張する際に精査する必要がある。また、TKaGRs 保有者の自己決定権を保証し、完全な関与を助長する ABS プロセスの各段階を管理する一貫した包括的かつ透明な法的枠組みを備えた ABS メカニズムを確立することを推奨する。このような状況では、利益分配同様にアクセスの条件や TKaGRs の利用を定義する慣習的なルールを ABS ルールに組み込むことを推奨する。ABS 制度の促進として、支援措置、特に TK 登録は、システムの強制力を確保するための推奨されるアプローチでなければならない。

ABBREVIATIONS

ABS: Access and Benefit Sharing

CBD: Convention on Biological Diversity

COP: Conference of the Parties

GRs: Genetic Resources

IP: Intellectual Property

IPRs: Intellectual Property Rights

IK: Indigenous knowledge

MAT: Mutually Agreed Terms

MOH: Ministry of Health (Vietnam)

MOIC: Ministry of Information and Communication (Vietnam)

MONRE: Ministry of Natural Resources and Environment (Vietnam)

MOST: Ministry of Science and Technology (Vietnam)

R&D: Research and Development

PIC: Prior Informed Consent

TK: Traditional Knowledge

TKaGRs: Traditional Knowledge associated with Genetic Resources

TKDL: Traditional Knowledge Digital Library (India)

TRIPS: The Agreement on Trade-Related Aspects of Intellectual Property Rights

WIPO: World Intellectual Property Organization

WIPO IGC: World Intellectual Property Organization (WIPO), Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore

WTO: World Trade Organization

LIST OF TABLES

Table 2.1: Market Sectors Dependent on Genetic Resources.....	18
Table 2.2: The use of TKaGRs by industry sectors.....	42
Table 2.3: Core obligations on TKaGRs of contracting parties to the Nagoya Protocol.....	47
Table 5.1: Laws and regulations directly or indirectly governing ABS in relation to TKaGRs in Vietnam.....	109
Table 6.1: The situation of the implementation of the international commitments with regard to TKaGRs and related ABS mechanism.....	132

LIST OF FIGURES AND DIAGRAMS

Figure 2.1: Potential Users of Genetic Resources.....	17
Diagram 2.1: The ABS mechanism.....	31
Diagram 2.2: The ABS model with benefits distributed to individuals and the whole society.....	45

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
ABSTRACT	iii
ABBREVIATIONS	v
LIST OF TABLES	vi
LIST OF FIGURES AND DIAGRAMS.....	vi
TABLE OF CONTENTS	vii
CHAPTER 1	1
INTRODUCTION	1
1.1. Research Background.....	1
1.1.1. Bio-piracy of traditional knowledge associated with genetic resources (TKaGRs) and global concerns	1
1.1.2. Emerging access and benefit sharing (ABS) regime as a response.....	3
1.1.3. Vietnam: the ABS regime related to TKaGRs in context	5
1.2. Research questions	7
1.3. Research objectives:.....	7
1.4. Methodologies.....	7
1.5. Structure of the dissertation	9
CHAPTER 2	11
TKaGRs AND ABS – THE THEORETICAL FRAMEWORK	11
2.1. Definition of Traditional Knowledge (TK), Traditional Knowledge associated with Genetic Resources (TKaGRs)	11
2.1.1. Traditional Knowledge (TK).....	11
2.1.2. Traditional Knowledge associated with Genetic Resources (TKaGRs).....	16
2.2. Issues emerging in the protection of TK in general and TKaGRs in particular	21
2.2.1. Bio-prospecting and Bio-piracy of TKaGRs.....	21
2.2.2. The public domain and the traditional notion of ownership	23
2.2.3. Customary rules and its enforcement for TKaGRs protection	27
2.3. The necessity of the ABS regime for the protection of TKaGRs.....	28
2.3.1. ABS: definition and constituent elements	28
2.3.2. The nature of the ABS scheme with regard to TKaGRs	34
2.3.3. The significance of the ABS regime in the view of TKaGRs protection	38

2.3.4. The ABS concerning TKaGRs under related international agreements.....	46
2.4. Summary	52
CHAPTER 3:	54
NATIONAL EXPERIENCES IN IMPLEMENTATION OF THE ABS REGIME RELATED TO TKaGRs	54
3.1. Selection of jurisdictions for the comparative study	55
3.2. Access and benefit sharing mechanism.....	56
3.2.1. Scope of protection under the ABS regime.....	56
3.2.2. Access	57
3.2.3. Benefit sharing	59
3.3. Incorporation of customary laws into the ABS mechanism.....	61
3.4. A supportive measure: registration systems of TKaGRs.....	62
3.4.1. NGO initiatives: The Honey Bee Network	63
3.4.2. Institutional initiatives: The Traditional Knowledge Digital Library (TKDL)	65
3.4.3. Legal initiatives: Local and national TK register in Peru.....	66
3.5. Lessons learned from the comparative study	67
3.6. Summary	69
CHAPTER 4:	71
APPROACH TO IMPLEMENTATION OF THE ABS REGIME REGARDING TKaGRs IN VIETNAM: THE BACKGROUND	71
4.1. Approach to relevant concepts in the Vietnamese context.....	72
4.1.1. TKaGRs and related concepts	72
4.1.2. Ownership over TKaGRs and associated GRs.....	75
4.2. Overview of TKaGRs in Vietnam.....	78
4.2.1. Potential and value	78
4.2.2. Threats of loss.....	81
4.3. ABS practices	82
4.3.1. Traditional ABS	82
4.3.2. Modern ABS.....	91
4.4. Summary	96
CHAPTER 5:	98
THE VIETNAMESE LEGAL FRAMEWORK.....	98
GOVERNING ABS IN RELATION TO TKaGRs.....	98

5.1. Brief introduction to the Vietnamese legal system	98
5.2. The ABS scheme under the Vietnamese laws and regulations and its relevance to TKaGRs.....	101
5.2.1. The ABS framework before the Law on Biodiversity	102
5.2.2. The ABS framework after the Law on Biodiversity	103
5.3. Substantial contents of the Vietnamese legal framework regulating TKaGRs in the ABS context.	108
5.3.1. Directly governing framework	112
5.3.2. Partly governing framework.....	114
5.3.3. Relevant provisions.....	118
5.4. Enforcement of the ABS regime in practice: Case studies	122
5.4.1. Positive cases:	122
5.4.2. Bio-piracy cases:	125
5.5. Summary	130
CHAPTER 6:	131
LEGAL CONSIDERATIONS FOR FUTURE REFORM	131
6.1. Achievements of Vietnam in developing the ABS framework related to TKaGRs.....	131
6.2. Obstacles and challenges of the system	132
6.2.1. In the light of international commitments:	132
6.2.2. From the perspectives of national laws and practice.....	134
6.3. Orientation for future reform: from the policy approach	143
6.4. Prospective system: lessons from practice and successful models applied in the Vietnamese contemporary context.....	147
6.4.1. Scope of protection: Secret or disseminated knowledge?	148
6.4.2. Determination of ownership/ stewardship over TKaGRs	150
6.4.3. The ABS mechanism.....	151
6.4.4. Empowerment of customary rules and community protocols.....	154
6.5. Summary	155
CHAPTER 7:	157
CONCLUSIONS.....	157
7.1. The study's findings.....	157
7.2. Recommendations	158
BIBLIOGRAPHY	160
ANNEX I	172
The reviewed legal documents of Vietnam and the selected countries.....	172

ANNEX II..... 175

Lists of interviewees and interview questions..... 175

CHAPTER 1

INTRODUCTION

1.1. Research Background

1.1.1. Bio-piracy of traditional knowledge associated with genetic resources (TKaGRs) and global concerns

Throughout a long history, traditional knowledge associated with genetic resources (TKaGRs) has played important roles in meeting people's diverse needs, contributing to national income and community livelihood, and playing as inputs in biotechnological industries, which led to discoveries and inventions of numerous bio-products. As illustrated by the Secretariat of the Convention on Biological Diversity (CBD), TKaGRs "is a vital source of information for identifying uses of GRs (genetic resources) that humanity as a whole can benefit from. This knowledge is particularly valuable for bioprospectors, or users of genetic resources, who use it to guide them to plants, animals, and microbes that are already known to have useful properties. Without this knowledge, many species currently used in research and commercialized products may never have been identified."¹

As such, while almost all TKaGRs holders place the utmost value on cultural and spiritual aspects and consider TKaGRs' commodification offensive to the spirituality or dignity of their native heritage,² economic potentials of TKaGRs have long been

¹ The Secretariat of the Convention on Biological Diversity, *Introduction to Access and Benefit Sharing*, p. 2, <https://www.cbd.int/abs/information-kit-en> (Last visited on August 10, 2019).

² See Taubman, A. & Leistner, M., *Analysis of Different Areas of Indigenous Resources*, in INDIGENOUS HERITAGE AND INTELLECTUAL PROPERTY: GENETIC RESOURCES, TRADITIONAL KNOWLEDGE AND FOLKLORE, at 62 (Lewinski, S. V. ed., Kluwer Law International BV, The Netherlands, 2nd ed. 2008), see also Robert K. Paternson & Dennis S. Karjala, *Looking Beyond Intellectual Property in Resolving Protection of the Intangible Cultural Heritage of Indigenous Peoples*, 11 Cardozo J. Int'l & Comp. L. 633, at 634 (2003).

acknowledged as an undeniable added value.³ However, the economic viability of TKaGRs also makes it susceptible to outsiders' misappropriation. The incidents of unauthorized access and acquisition of TKaGRs have not been an uncommon phenomenon worldwide, which is widely known as "bio-piracy". Bio-piracy is definable in different perspectives, but has generally been viewed as an act of uncompensated acquisition of GRs or TKaGRs of indigenous people or local communities.⁴ In these cases, bio-prospectors, typically from developed countries, utilize TKaGRs to develop derivative products but exclude the original TKaGRs holders from commercial exploitation of such products.⁵ In some other contexts, bio-piracy manifests itself not only as an act of "thief" but also as an offense against sacred values and cultural identities of TKaGRs holders.⁶ Illustrations may be found in various famous cases, such as the *Maya ICBG case* in 1999 – that involved unethical and unauthorized bioprospecting of ethnobotanical knowledge of the indigenous Maya people by the International Cooperative Biodiversity Group in Germany, or the *Neem tree case* in

³ The economic potentials of TK have been discussed in various sources of literature, see, e.g., Rebecca Tsosie, *International Trade in Indigenous Cultural Heritage: an Argument for Indigenous Governance of Cultural Property*, in INTERNATIONAL TRADE IN INDIGENOUS CULTURAL HERITAGE: LEGAL AND POLICY ISSUES, (Christop B. Graber, Karolina Kuprecht & Jessica C. Lai (Eds), Edward Elgar, 2012); Robin Ramcharan, INTERNATIONAL INTELLECTUAL PROPERTY LAW AND HUMAN SECURITY, at 196 (T.M.C. Asser Press, 2013); Antony Taubman & Matthias Leistner, *id.*, at 62; Carvalho, N., *From the Shaman's Hut to the Patent Office: A Road Under Construction*, in BIODIVERSITY AND THE LAW: INTELLECTUAL PROPERTY, BIOTECHNOLOGY AND TRADITIONAL KNOWLEDGE (McManis, C. R, ed., Earthscan, London, 2007), at 244.

⁴ The Cambridge Dictionary defines bio-piracy as "the act of taking living things, especially plants, from an area or taking the knowledge of local people about these living things, and using them or it to make money for a particular company or organization", see <https://dictionary.cambridge.org/dictionary/english/biopiracy> (Last visited on December 20, 2019). Response to the situation of bio-piracy in the context of TKaGRs protection will be further discussed in Chapter 2.

⁵ Castle, D. & Gold, E. R., *Traditional Knowledge and Benefit Sharing: From Compensation to Transaction*, 8th ICABR International Conference on Agricultural Biotechnology: International Trade and Domestic Production, Ravello (Italy), July 8 - 11, 2004, at 65.

⁶ Paternson, R. K. & Karjala, D. S., *supra* note 2, at 633-34.

1994 – that raised public outrage over the act of the U.S. Department of Agriculture to patent methods of controlling fungal infections in plants using neem extract (*Azadirachta indica*) that had long been known in India traditional medicine.⁷ Such inherent injustice towards indigenous peoples and local communities has raised deep concerns in the global setting, which triggered plenty of international negotiations, and national initiatives as well, to cope with the problem.

1.1.2. Emerging access and benefit sharing (ABS) regime as a response

The CBD was concluded as a legal response to such unfair exploitation of TKaGRs.⁸ This is an international agreement dedicated to the conservation and sustainable use of biodiversity, with 196 Parties to date.⁹ The Convention serves three objectives, of which the third is for the equitable sharing of the benefits arising from the utilization of GRs and TKaGRs. It seems to be too simplistic if viewing such an objective as aiming solely to address the bio-piracy issue. Rather, while reinforcing the environmental justice by ensuring access and utilization of GRs and TKaGRs to be subject to the holders' consent and compensation, the Convention promotes the application of TKaGRs outside the bound of traditional communities to serve development in a broader sense.¹⁰ Taking the conservation-based in combination with the economic approach, the Convention requires

⁷ Daniel F. Robinson, *CONFRONTING BIOPIRACY: CHALLENGES CASES AND INTERNATIONAL DEBATES* (Earthscan, London, 2010).

⁸ Zedan, H., *Patents and Biopiracy: The Search for Appropriate Policy and Legal Responses*, 12(1) THE BROWN JOURNAL OF WORLD AFFAIRS. 189, at 189 (2005).

⁹ The Secretariat of the Convention on Biological Diversity (CBD), *List of Parties*, <https://www.cbd.int/information/parties.shtml> (Last visited on December 20, 2019).

¹⁰ Article 8(j) of the Convention on Biological Diversity reads: “Each contracting Party shall, as far as possible and as appropriate, subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and *promote their wider application* with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices.” (Emphasis added).

contracting parties to establish mechanisms for access and benefit sharing (ABS) within national legislations, under which access to TKaGRs must be subject to prior informed consent (PIC) of TKaGRs holders, and share of resulted benefits in accordance with the mutually agreed term (MAT) between the both parties.¹¹ It also requires contracting parties to protect TKaGRs and customary practices related to the use of biological resources.¹²

However, the CBD features itself as a framework agreement. It leaves discretion for contracting parties to decide the matters under their national legislations. It also emphasizes the possibility for the Conference of the Parties (COP) to further negotiate annexes and protocols. Nonetheless, the adoption of the Nagoya Protocol as the only binding instrument on ABS under the auspice of the CBD did not result in a comprehensive global scheme concerning the ABS related to TKaGRs. It provides much flexibility for individual Parties to determine how the issue is to be implemented within their jurisdictions. Other international forums, including negotiations to review Article 27(3,b) of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) (in accordance with the 2001 Doha Ministerial Declaration which mandated the formal consideration of TK issues within the WTO's TRIPS Council) and those under the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC), have still been on-going to seek the consensus among the involved actors.¹³ In such a context, domestic frameworks in each individual country have been of great significance to protect TKaGRs. Currently, in many developing countries, such as China, India, South Africa, Peru and Panama, national laws are the prime mechanism for achieving protection of TKaGRs holders' legal interests.

¹¹ Art. 15 and Art. 8(j) of the CBD.

¹² Art. 10(c) of the CBD.

¹³ The discussion taking place in those international forums will be further elaborated in Part 2.3.4 of this dissertation.

1.1.3. Vietnam: the ABS regime related to TKaGRs in context

Vietnam is known as one of the 10 richest biodiversity centers in the world, with estimated 12,000 species of high-value plants, of which 10,500 have been identified with 36 percent having medicinal properties.¹⁴ With diverse and endemic genetic resources, Vietnamese ethnic groups through generations have accumulated and developed experiences and initiatives in conserving and using such resources, thereby enriching the system of traditional knowledge associated with genetic resources. Examples range from various traditional varieties, such as *Seng cu* rice of ethnic minorities in the North West of Vietnam, to traditional medicines, such as traditional bathing medication of the Red Dao ethnic minority. For decades, TKaGRs in Vietnam has significantly contributed to conservation and enrichment of biodiversity, improvement of the holders' livelihoods, and promotion of research and development (R&D) activities, thereby promoting the development of modern sciences and national economy.

In practice, access and sharing of benefits resulted from the utilization of TKaGRs for commercial and non-commercial purposes has taken place in Vietnam since a very early time and is getting more and more popular in modern society. ABS relations have even arisen within and among traditional communities in local contexts since ancient times.¹⁵ As to the modern ABS with the involvement of research and development as governed under the CBD framework, the recent two decades also witnessed transactions between ethnic minority people and developers who wished to access and utilize TKaGRs for research or commercial purposes.¹⁶ Nevertheless, since TKaGRs in Vietnam is largely fragmented, undocumented and very susceptible to bio-piracy, legal rights of TKaGRs holders in and outside ABS relations have hardly been protected. It is exacerbated by the fact that the legal

¹⁴ United Nations Conference on Trade and Development (UNCTAD), *The interface between access and benefit-sharing rules and Bio-trade in Vietnam*, held on 27 – 28 June 2016 in Hanoi, at 1 – 3.

¹⁵ Related evidences and arguments will be provided in Part 4.3.1 of this dissertation.

¹⁶ Related evidences and arguments will be provided in Part 4.3.2 of this dissertation.

framework governing the subject matter is still in its infant stage, which fails to govern distinctive relations between involved parties in the ABS context.

The requirement of a comprehensive and coherent legal framework regulating ABS in relation to TKaGRs emanates not only from the need of practice but from the responsibility of Vietnam to codify related international commitments into the national legal system. Vietnam ratified the Convention on Biological Diversity (CBD) in 1994 and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (hereinafter referred to as the Nagoya Protocol) in 2014. Therefore, an effective mechanism for ABS and other supportive measures not only serves as a national response to such international commitments, but also actively contributes to justice for TKaGRs holders.

Regarding the implementation of related international commitments, the Law on Biodiversity entered in force in 2008, serving as a legal tool to codify requirements of the CBD and the Nagoya Protocol into national laws. The Law and guiding documents provide a relatively specific framework on ABS related to GRs, but are still silent on that of TKaGRs. The legal sources for TKaGRs protection, therefore, are sought in scattered provisions of legal documents in different fields. Not to mention those provisions have been proven to be infeasible and impractical during the course of enforcement.

The legal reform for the matters at stake was initiated through the legal projects concerning the amendment of the Law on Biodiversity and the establishment of the Law on Traditional Medicine. Those laws are expected to deal distinctively with the protection of TKaGRs in the ABS context. However, although the legal reform has been put in official agendas, a clear-cutting approach has yet to be found. This fact inadvertently facilitates infringements over the rights and interests of TKaGRs holders by those who use such TKaGRs for commercial or non-commercial purposes.

1.2. Research questions

With such a background, this dissertation was carried out in search of solutions to address the problems facing by the Vietnamese legal system in providing safeguards for those actors involving in ABS process related to TKaGRs. To this end, the following questions need to be addressed in the research:

1. What is the nature of the ABS scheme related to TKaGRs which defines legal and practical requirements during the implementation process?
2. How have other countries dealt with the matters at stake and what lessons can be learned therefrom?
3. What are the problems of Vietnam resulting in the malfunction of the legal system in dealing with the issues in question?
4. What solutions should be applied in the light of international experiences and lessons from the failure of the existing system?

1.3. Research objectives:

The dissertation aims to achieve the following objectives:

1. Review the theoretical framework underlying the concepts and principles of the ABS related to TKaGRs, and experiences of TK-rich countries in dealing with the subject matters.
2. Review practices, laws and policies governing ABS related to TKaGRs in Vietnam, thereby assessing achievements, as well as difficulties faced by the system.
3. Propose recommendations for the legal reform based on findings of conducted analysis and assessment.

1.4. Methodologies

With the nature of legal research, this study was performed substantially through a library-based review of theoretical concepts, principles, implementation, and enforcement

of the ABS mechanism related to TKaGRs. Adopted that methodology, the study was conducted by using and analyzing relevant literature, including academic and scientific research, texts of international agreements, working papers of the CBD's COPs, the TRIPS Council and the WIPO IGC, legislations from Vietnam and other countries. The review was intended to explore TKaGRs from the theoretical perspective as the background to frame it into practical contexts, thereafter the actual negotiations, implementation, and enforcement were analyzed to ascertain the existing situation and future trends of the ABS regime concerning TKaGRs. During this process, careful attention was paid to avoid bias inclination as an effect of the North-South division in the ABS related matters.

Besides, a case review of selected ABS practices and biopiracies was used to investigate the gaps between practices and jurisprudence in the course of developing solutions to biopiracy. To achieve that purpose, the author selected three cases representing ABS transactions taking place with goodwill from the involved parties, and three other cases illustrating acts of acquisition of TKaGRs without authorization and compensation. Those cases were collected either through the literature or by in-depth interviews. The selection of cases took into account the nature of the involved TKaGRs (disclosed or disseminated knowledge), levels of involvement of indigenous people and local communities in R&D stages of the ABS process, and tactics or vehicles by which the TKaGRs was taken away from its holders. The time of the cases' occurrence was also taken into consideration in the course of selection to facilitate the comparison between ABS transactions before or after the enactment of the Law on Biological Diversity in 2008.

Recognizing the insufficiency of the literature in reflecting the whole picture of practical implementation of the ABS regime, the study adopted some of sociological methods. Since ABS, especially that related to TKaGRs, is distinct from commonplace transactions, a survey by questionnaires was not considered an appropriate tool. Instead, the author conducted in-depth interviews with those directly getting involved in ABS transactions and those taking part in law and policy-making process or state management over the subject matter. Specifically, two companies with experiences in ABS transactions,

three researchers from research institutions and three representatives from relevant state agencies were selected for in-depth interviews (the list of interviewees and interview questions are attached in Annex II of this dissertation). Those interviews aimed to ascertain the actual happening of ABS transactions through the lens of both providers and users in those processes. They were also useful in providing information about state management over cases involving TKaGRs.

1.5. Structure of the dissertation

To achieve the dissertation's objectives, the dissertation contains 6 chapters.

Chapter 1 introduces the background of the ABS regime related to TKaGRs from the theoretical and practical points of view, in both international and national settings. It also lays out research questions, research objectives, gives a brief explanation of the methodologies and structure of the dissertation.

Chapter 2 provides a comprehensive insight into the relevant concepts and principles of the ABS mechanism in the light of theoretical studies and international frameworks. It explores different approaches to the definitions of TK and TKaGRs and emerging issues in protection of TK in general and TKaGRs in particular. It also deals with the theoretical and legal matters of the ABS regime under related international instruments. It concludes with the impossibility of the international instruments themselves to address the subject matter, which signifies the importance of national initiatives.

National experiences are the specific focus of Chapter 3. The chapter endorses the comparative approach to analyze experiences of the selected countries in three related fields: the access and benefit sharing mechanism, incorporation of customary laws into the ABS mechanism and registration systems of TKaGRs. Those national experiences involve both successes and failures, and reflect different angles in approaching the protection of TKaGRs in the ABS context.

The focus of the Vietnamese situation is given in Chapter 4. The chapter presents the current status regarding TKaGRs and the practice of ABS. It approaches the ABS matters

from two levels in the Vietnamese context: the first is traditional ABS with share and exchange of knowledge within and among ethnic communities and the second is modern ABS with R&D activities between ethnic communities and bio-prospectors. The chapter provides the background to confirm the necessity of the legal framework governing ABS relations concerning TKaGRs.

Chapter 5 gives a description and analysis of the legal framework governing the subject matter. The legal framework is analyzed through examining the existing ABS mechanism and its relevance to TKaGRs, and legal arrangements for TKaGRs in scattered legal provisions. The enforcement of the framework is illustrated through six case studies involving both ABS practices in good faith and bio-piracy.

Chapter 6 further devotes to the analysis of the Vietnamese context by acknowledging achievements Vietnam has made and identifying the problems faced by the system in dealing with ABS related to TKaGRs. An overview of the policy approach for future reform is also laid down in this chapter, based on which solutions are proposed to improve the legal framework in the future.

Chapter 7 offers conclusions on the findings of the dissertation and recommendations for legal reform.

CHAPTER 2

TKaGRs AND ABS – THE THEORETICAL FRAMEWORK¹⁷

This chapter is designed to clarify the theoretical framework underlying the concepts of TKaGRs and related ABS regime. To achieve such an objective, the chapter is broken down into three main parts. A clarification of the terms “traditional knowledge” (TK) and “traditional knowledge associated with genetic resources” (TKaGRs) is presented in the first part. It is followed by discussions on difficulties and obstacles faced by the global and national legal systems in seeking an appropriate mechanism for the protection of TKaGRs. In the last part, the use of the ABS mechanism as a responsive measure is justified in three core aspects: sustainable, economic and developmental justifications. Also, in explaining the international framework regulating ABS in relation to TKaGRs, the chapter highlights the vagueness and weak enforceability of the global scheme, which leaves room for national initiatives to tackle the issue at the domestic level.

2.1. Definition of Traditional Knowledge (TK), Traditional Knowledge associated with Genetic Resources (TKaGRs)

2.1.1. Traditional Knowledge (TK)

To date, there is no globally adopted definition of Traditional knowledge (TK). This term has been used in various contexts where its connotation has differently been interpreted. Nevertheless, numerous attempts have been seen in the literature to provide definitions of TK.

¹⁷ Contents of this chapter were partly published in a journal article of the author with the title “Patent protection over traditional knowledge associated with genetic resources in Vietnam: the case of traditional medical knowledge” (35(1) JOURNAL OF HUMAN AND SOCIO-ENVIRONMENTAL STUDIES. 1 (2018)).

Despite the breadth and diversity of areas covered by TK and its complicated nature, convergent views on the term and its definitions have gradually been emerged in the course of the global debate. One illustration may be found in a working definition adopted by the World Intellectual Property Organization (WIPO)'s Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (WIPO IGC) where ubiquitous features of TK are highlighted:

“Traditional knowledge” refers to the content or substance of knowledge that is the result of intellectual activity and insight in a traditional context, and includes the know-how, skills, innovations, practices and learning that form part of traditional knowledge systems, and knowledge that is embodied in the traditional lifestyle of a community or people, or is contained in codified knowledge systems passed between generations. It is not limited to any specific technical field, and may include agricultural, environmental and medicinal knowledge, and knowledge associated with genetic resources.”¹⁸

The same approach can be seen in the definition provided by the Working Group of the Article 8 (j) of the CBD:

“Traditional knowledge refers to the knowledge, innovations, and practices of indigenous and local communities around the world. Developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds. Sometimes it is referred to as an oral traditional for it is practiced, sung, danced, painted, carved,

¹⁸ World Intellectual Property Organization - Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore [WIPO IGC], *Glossary of Key Terms Related to Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions*, at 40, WIPO Doc. WIPO/GRTKF/IC/28/INF/7 (December 7, 2012).

chanted and performed down through millennia. Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, forestry and environmental management in general.”¹⁹

As exemplified by the two aforesaid definitions, TK, as a universally used concept, is unanimously perceived to be collective in nature, embedded in traditional contexts with distinctive cultures and customs, preserved and almost orally passed down through generations. In a broad sense, it compasses a wide range of subject areas from art to technical fields, but has most popularly been found in such fields as agricultural, medical and environmental knowledge. Besides, as an intangible product as such, TK is a form of innovation and creativity, but conveys technical and/or scientific information in traditional, cultural or spiritual contexts.²⁰ Further, the constant evolvement in response to the social, physical needs or changing environments also constitutes a unique feature of TK, which distinguishes it from intellectual property (IP) - based innovation that is defined in static status.²¹

With an emphasis on the nature of TK as an innovation or know-how, a lot of interpretations of TK have been made in a strict sense to distinguish it from “folklore”. TK under this way of interpretation is classified by the WIPO as TK *stricto sensu*, which

¹⁹ The Secretariat of the Convention on Biological Diversity, *Brochure on Traditional Knowledge*, at 1, <https://www.cbd.int/traditional/intro.shtml> (Last visited August 10, 2019).

²⁰ Apart from WIPO IGC and CBD definitions, other definitions provided by scholars in the literature also highlight this characteristic of TK. See Taubman, A. & Leistner, M., *supra* note 2, at 72; see also Taubman, A., *Saving the Village: Conserving Jurisprudential Diversity in the International Protection of Traditional Knowledge*, in INTERNATIONAL PUBLIC GOODS AND TRANSFER OF TECHNOLOGY UNDER A GLOBALIZED INTELLECTUAL PROPERTY REGIME, at 535 (Maskus, K. E. & Reichman, J. H. ed., Cambridge University Press, 2005).

²¹ *Id.*

consists of knowledge itself²² in contradiction to cultural expressions, such as verbal expression (tales, poetry, riddles), or musical expressions (songs and instrumental music), which feature themselves in material or tangible forms. In the same vein, Michael Blakeney also points out a stark contrast between the two concepts by the virtue of folklore's static status instead of evolving tradition that substantially features TK and the failure of the term folklore to express the holistic conception of many non-Western communities in respects of knowledge and transmission of knowledge.²³ This dissertation adopts the same approach to deal with the term TK for the purpose of laying the concept within the ABS context where know-hows and innovations of indigenous peoples and traditional communities are the core of concern.

Some may refer to the term indigenous knowledge (IK) with the same connotation with TK, and in fact, the two concepts are sometimes used interchangeably. The use of the term IK, rather than TK, was even advocated by indigenous communities²⁴ and representatives of some countries, such as South Africa, during negotiation.²⁵ This approach denotes the term IK as the knowledge systems of people and communities bearing distinct indigenous status, and therefore excludes those of other local communities out of the defined scope.²⁶ However, as Antony Taubman and Matthias Leistner rightly note, the choice of the term touches on the politically sensitive issue of indigenous people, which has

²² WIPO IGC, *Consolidated Survey of Intellectual Property Protection of Traditional Knowledge*, Doc. WIPO/GRTKF/IC/5/7 (April 4, 2003), para. 6-10. In this document, the WIPO IGC highlights the distinction between TK *stricto sensu* (TK in the strict sense) and TK *lato sensu* (TK in the broad sense). TK *strict sensu*, according to this document, can be understood as ideas developed by traditional communities and indigenous people while TK *lato sensu* further extends its connotation to cultural expressions, such as folk tales, folk songs, etc.

²³ Blakeney, M., *The Protection of Traditional Knowledge under Intellectual Property Law*, 22(6) E.I.P.R.251, at 251 (2000).

²⁴ See Taubman, A. & Leistner, M., *supra* note 2, at 61, fn.7.

²⁵ See WIPO IGC, *Republic of South Africa: Indigenous Knowledge Systems Policy*, Doc. WIPO/GRTKF/IC/9/11 (March 2, 2006).

²⁶ See Taubman, A. & Leistner, M., *supra* note 2, at 69.

still been controversially debated and well beyond the issue of TK.²⁷ Moreover, while indigenous people are frequently referred to as conquered and suppressed people²⁸, or as those involved in the rights struggle with a state not founded by them²⁹, and accordingly the recognition of their rights is regarded as rectification of past injustices³⁰, many attempts have been made to opt out of using the terminology IK to avoid sensitively political debates. For instance, the Delegation of India opined that: “terms that had a connotation derived from the colonial era when an attempt was made to distinct between colonists and the original people inhabiting a particular country.”³¹ The same response came from the Delegation of Indonesia who concluded that “the tendency of the present use of the term originated in a colonial context, in which the ruling majority of colonialists had to be differentiated from the so-called original people living on the land before the colonialists came.”³² I pick up this view as the basis to deal with the terminology TK within the scope of this dissertation since the convergence is found between the aforesaid approach and the policy of Vietnam.³³

²⁷ *Id.*, at 70.

²⁸ *Id.*

²⁹ Drahos, P., *INTELLECTUAL PROPERTY, INDIGENOUS PEOPLE AND THEIR KNOWLEDGE*, at 24 (Cambridge University Press, 2014).

³⁰ Antons, C., *Traditional Knowledge and Intellectual Property Rights in Australia and South East Asia*, in *NEW FRONTIERS OF INTELLECTUAL PROPERTY LAW: IP AND CULTURAL HERITAGE – GEOGRAPHICAL INDICATIONS – ENFORCEMENT – OVERPROTECTION* (C. Health & Sanders, A. K., eds., Oxford: Hart Publishing, 2005), at 39.

³¹ See WIPO IGC, *Traditional Knowledge: Policy and Legal Options*, at 83 (para 153), Doc. WIPO/GRTKF/IC/8/15 Prov. 2 (December 12, 2003).

³² *Id.*, at 82-83 (para. 152).

³³ In fact, the connotation of the term "indigenous knowledge" is somewhat narrower than TK. According to the Indigenous and Tribal Peoples Convention of 1989 (so-called as International Labour Organization Convention No. 169), "indigenous" is always linked to “indigenous peoples” whose origin and social, cultural, economic and political characteristics make them distinct from the dominant societies, which is very closed to the term "ethnic minorities" in Vietnam. In fact, although the vast

2.1.2. Traditional Knowledge associated with Genetic Resources (TKaGRs)

As Dutfield observes, TK is commonly and naturally connected with the environment as the reflection of a strong tie between local people and nature during the course of struggling for survival.³⁴ More distinctively, TK is seen as inseparable from biological resources on which TK is founded and evolved as the result of efforts by indigenous peoples and local communities to conserve, nurture and develop them.³⁵

Genetic resources (GRs) make up one out of three components of the biodiversity, and are defined in the CBD as genetic material of *actual or potential* value.³⁶ They are living components of plant, animal or microorganism species that possess functional units of heredity known as genes.³⁷ GRs serve as sources of livelihood and income of indigenous peoples and local communities particularly, and of the whole humankind at large. Further, an undeniable role of GRs is crucially found in biotechnological industries where GRs are

majority of TKaGRs holders are ethnic minority people, there are still some exceptional cases where holders belong to Kinh ethnic majority group (*see the case study of Nam Duoc company in Part 5.4.2 of this dissertation*). Furthermore, the CBD and the Nagoya Protocol do not refer to “indigenous peoples” alone as TK holders, but extends to local communities with a broader connotation. Therefore, the term “indigenous knowledge” may limit the scope of protection from both practices and the mentioned international agreements. On that account, the term “traditional knowledge” has been used in the framework dedicated to the implementation of the CBD and the Nagoya Protocol in Vietnam.

³⁴ Dutfield, G., *Legal and Economic Aspect of Traditional Knowledge*, in INTERNATIONAL PUBLIC GOODS AND TRANSFER OF TECHNOLOGY UNDER A GLOBALIZED INTELLECTUAL PROPERTY REGIME, at 496 (Maskus, K. E & Reichman, J. H., eds., Cambridge University Press, 2005).

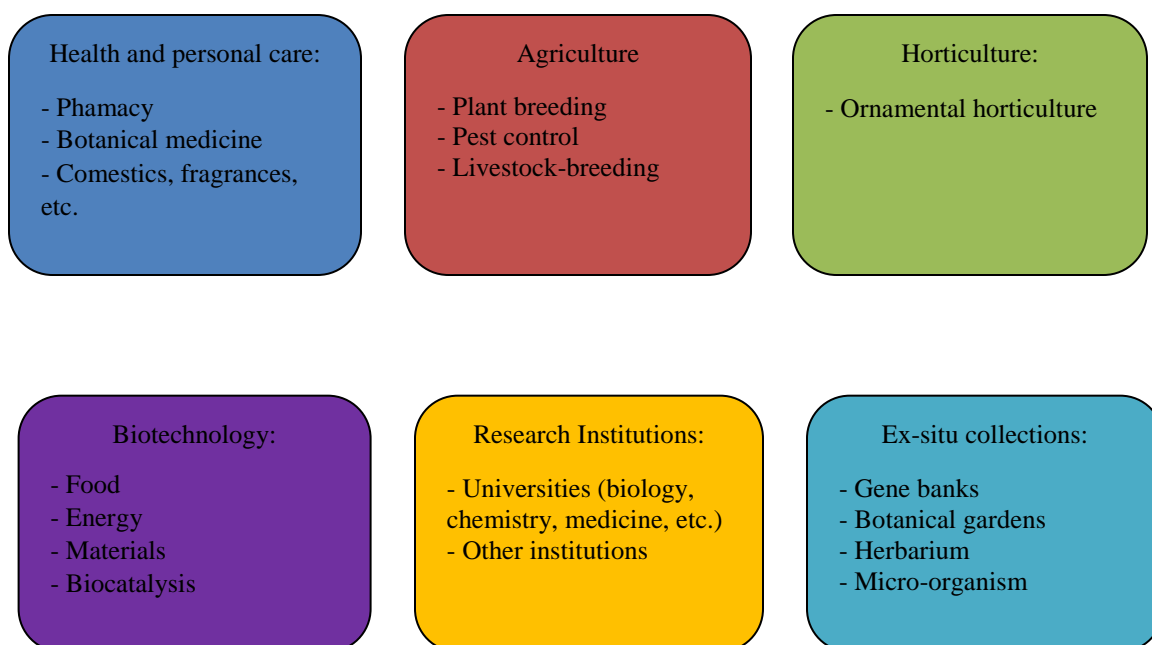
³⁵ Tobin, B., *The Role of Customary Law in Access and Benefit – Sharing and Traditional Knowledge Governance: Perspectives from Andean and Pacific Island Countries*, at 16, UNU-IAS/WIPO, Geneva, 2013.

³⁶ See Art. 2 of the CBD.

³⁷ Greiber, T. et al, AN EXPLANATORY GUIDE TO THE NAGOYA PROTOCOL ON ACCESS AND BENEFIT SHARING, at 71 (Gland: IUCN, 2012).

utilized as inputs for R&D research.³⁸ The figure and table below exemplify the contribution of GRs in research and development.

Figure 2.1: Potential Users of Genetic Resources



Source: Holm-Muller, K., Richerzhagen, C. And Tauber, S., *Users of Genetic Resources in Germany – Awareness Participation and Positions regarding the Convention of Biological Diversity*, in ACCESS AND BENEFIT SHARING OF GENETIC RESOURCES (Ute Feit, et al (eds), Bonn: BfN-Skripten 126, 2005), at 15.

³⁸ See Vandana, S., *Protecting our Biological and Intellectual Heritage in the Age of Biopiracy*, at 1-30 (New Delhi: Research Foundation for Science, Technology and Natural Resources Policy, 2007).

Table 2.1: Market Sectors Dependent on Genetic Resources

Sector	Size of market	Comment
Pharmaceutical	US\$ 643 billion (in 2006)	A significant share derived from genetic resources (e.g. 47 % of cancer drugs over period 1981-2006)
Biotechnology	US \$ 70 billion (in 2006 from public companies alone)	Many products derived from genetic resources (enzymes, micro-organisms)
Crop protection products	US \$ 30 billion (in 2006)	Some derived from genetic resources
Agricultural seeds	US \$ 30 billion (in 2006)	All derived from genetic resources
Ornamental horticulture	Global import value US \$ 14 billion (in 2006)	All derived from genetic resources
Personal care, botanical, and food and beverage industries	US \$ 22 billion for herbal supplements US \$ 12 billion for personal care US \$ 31 billion for food products (all in 2006)	Some products derived from genetic resources: represents natural component of the market

Source: Markandya, A. and Nunes, P. *Sharing Benefits Derived from Genetic resources*,
in THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY IN NATIONAL AND
INTERNATIONAL POLICY MAKING (Ten Brink, P. (ed.) Earthscan: London and
Washington, 2011), at 222.

While significant contributions of GRs are widely recognized, there is also an acknowledgement of the linkage between GRs and TK from which values attached with genetic material have been explored and utilized. James Anaya regards such knowledge as a channel of translation from purely genetic material to GRs as genetic material of *actual or potential* value.³⁹ It reflects the consistent interaction of indigenous people and local communities with the surrounding environment over centuries, thereby knowledge of properties and characteristics of genetic materials and their use has been gained, accumulated and developed.⁴⁰ In the inter-relationship with GRs, TK has even been acknowledged as an intangible component of GRs, such as “the information contained in genes or other sub-cellular components, or in cells, propagating materials or plants”,⁴¹ although in fact GRs and associated TK are frequently treated under separated legal regimes due to distinct classification between tangible and intangible properties.⁴² Such a kind of inseparable link between TK and GRs is also reaffirmed by the Nagoya Protocol.⁴³

³⁹ Anaya, J. S., *Intellectual Property and Genetic Resources: What is at Stake for Indigenous Peoples*, Keynote Address by the UN Special Rapporteur on the Rights of Indigenous Peoples to the Indigenous Panel of the 26th Session of the World Intellectual Property Organization Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional and Folklore, 3 February 2014 , <http://unsr.jamesanaya.org/statements/intellectual-property-genetic-resources-and-indigenous-rights> (Last visited August, 2019).

⁴⁰ See Dutfield, G., *supra* note 34, Tobin, B., *supra* note 35.

⁴¹ Carlos M. Correa, *Sovereign and Property Rights over Plant Genetic Resources*, 12(4) AGRICULTURE AND HUMAN VALUES. 58 (1995).

⁴² VOGEL.J.H et al., ‘*The Economics of Information, Studiously Ignored in the Nagoya Protocol on Access to Genetic Resources and Benefit-sharing*’, 7(1) LAW, ENVIRONMENT AND DEVELOPMENT JOURNAL . 54 (2011), at 55, states that “a general classification of property as tangible, corporal, or intangible has been established. In case of GR, there may be a basis for distinction between the rights over the physical entity (physical property) and over the genetic information that the resources contain (intangible property)”

⁴³ In the Preamble of the Nagoya Protocol, the inter-relationship between GRs and TKaGRs is reaffirmed: “*Noting* the interrelationship between genetic resources and traditional knowledge, their inseparable nature for indigenous and local communities, the importance of the traditional knowledge

The added value of TK to GRs has brought great appreciation, interests, and contentious debates as well, from biodiversity-related research and industries. It is reported that the seek of GRs by industries and research institutions has largely been inspired and led by their use reflected in TK.⁴⁴ As Laird and Wynberg note, “natural development of drugs, contribute significantly to the bottom lines of large pharmaceutical companies: between January 1981 and June 2006, for example, 47 % of cancer drugs and 34 % of all small molecule new chemical entities for the treatment of all disease categories were either natural products or directly derived therefrom. Research into specific natural products is usually directed by existing knowledge, often directly from indigenous or local communities, but now in many cases as transferred through the ‘public domain’.”⁴⁵

TKaGRs may be found in a wide range of its subdivisions, including traditional agricultural knowledge, traditional ecological knowledge and traditional medical knowledge.⁴⁶ Over centuries, TKaGRs has demonstrated its significance in all ecological, socio-economic and scientific perspectives, including the conservation of biodiversity and the sustainable use of its components, safeguard of food security, preservation of cultural identities, and promotion of pharmaceutical innovation, amongst others. Nevertheless, despite its *de facto* existence and even being officially treated as a subject matter under the framework of the CBD, the TKaGRs concept has never been officially defined by any international hard or soft law instruments. The CBD – the only convention dealing with

for the conservation of biological diversity and the sustainable use of its components, and for the sustainable livelihoods of these communities.”.

⁴⁴ Morgera, E., et al. (Ed.), THE 2010 NAGOYA PROTOCOL ON ACCESS AND BENEFIT SHARING IN PERSPECTIVE: IMPLICATIONS FOR INTERNATIONAL LAW AND IMPLEMENTATION CHALLENGES, at 255, fn. 351 (Martinus Nijhoff Publishers, 2013).

⁴⁵ Sarah Laird and Rachel Wynberg (eds), ACCESS AND BENEFIT SHARING IN PRACTICE: TRENDS IN PARTNERSHIPS ACROSS SECTORS (Technical Series, No. 38, CBD Secretariat, 2008), at 12.

⁴⁶ McManis, C., *Biodiversity, Biotechnology and Traditional Knowledge Protection: Law, Science and Practice*, in BIODIVERSITY AND THE LAW: INTELLECTUAL PROPERTY, BIOTECHNOLOGY AND TRADITIONAL KNOWLEDGE (McManis, C., ed., UK: Earthscan, 2007), at 4.

TKaGRs – indirectly clarifies the term by referring to some basic elements constituting the concept of TKaGRs, namely: “knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity.”⁴⁷ Aside from the factors to remark TKaGRs as a type of TK generally, the text contains solely one element, namely “relevant for the conservation and sustainable use of biological diversity”, to denote the specific feature of TKaGRs in distinction to those in other areas of TK. Under the forum of WIPO IGC, a slightly further clarification of the term is provided in the draft text, accordingly “association with genetic resources” is interpreted as “substantive knowledge of the properties and uses of genetic resources”.⁴⁸ As such, TKaGRs is unique in that it embodies distinctive knowledge of indigenous peoples and local communities concerning the characteristics of GRs and methods or processes of their use to serve diversified needs.

2.2. Issues emerging in the protection of TK in general and TKaGRs in particular

2.2.1. Bio-prospecting and Bio-piracy of TKaGRs

From the perspective of the bio-industry, the *potential* value of GRs transforms to *actual* value through a process called bio-prospecting. The bio-prospecting concept refers to the exploitation of biodiversity for potential commercial purposes, for which R&D research is essentially carried out to discover commercially valuable genetic and biochemical resources that may be utilized for the development of products in a broad array of biology-related sectors, such as agriculture, pharmacy and cosmetics.⁴⁹ Since the discovery of biological resources’ potential values acts as a “catalyst” for every bio-prospecting activity, the contribution of TKaGRs, whether recognized or not, is of great significance in providing the leads for R&D research whereby money, time or other

⁴⁷ Art. 8(j) of the CBD.

⁴⁸ See WIPO IGC, *Consolidated Document Relating to Intellectual Property and Genetic Resources*, Doc. WIPO/GRTKF/IC/30/4 (March 9, 2016) at Annex 2.

⁴⁹ See Garcia, J., *Fighting Biopiracy: The Legislative Protection of Traditional Knowledge*, 18 BERKELEY LA RAZA LAW JOURNAL.5, at 7-8 (2007).

invested resources of bio-tech firms are crucially saved.⁵⁰ In the bio-prospecting context, bio-piracy has frequently been referred to in a negative sense. It is generally described as the situation where GRs and/ or TKaGRs of indigenous peoples is used by others for profit without authorization or compensation.⁵¹ Within the scope of this dissertation concerning the discussion of bio-piracy, the intended focus is on misappropriation and/ or misuse of TKaGRs.

For clarification of the bio-piracy concept in such circumstances, the *Hoodia case* offers a typical example.⁵² The San people have inhabited the Kalahari Desert in South Africa for a long history. They have historically used the bitter flesh of the Hoodia plant (*Hoodia gordonia*) to suppress appetite. Because such practice in the use of the Hoodia plant was transmitted out of the bounds of the San community, the South Africa Council for Scientific and Industrial Research (CSIR) got to know the knowledge and commenced research on the properties of the Hoodia plant. Its efforts resulted in the commercialization of appetite suppressant and anti-obesity drugs, followed by registration of a related patent in 1997. The unauthorized use and misappropriation of indigenous knowledge by the CSIR aroused public debates and the San people's outrage, which was eventually compromised by a benefit sharing agreement in 2003. Accordingly, the San people were expected to receive six percent of all royalties got by the CSIR for products and eight percent of milestone income when certain targets were reached. Nevertheless, Wynberg reports that, as of 2010, only 100.000 USD was paid to the San people under the benefit sharing

⁵⁰ Verma, S. K., *Protecting Traditional Knowledge: Is a Sui Generis System an Answer?* 7(6) JOURNAL OF WORLD INTELLECTUAL PROPERTY. 765 (2004), at 768.

⁵¹ Wyatt, T., *Biopiracy*, in ENCYCLOPEDIA OF TRANSNATIONAL CRIME & JUSTICE, at 30 (Margaret E. Beare ed., Thousand Oaks: SAGE Publications, Inc., 2012).

⁵² Detailed discussions on the Hoodia case appear in numerous publications, see, e.g., Wynberg, R. et al., *INDIGENOUS PEOPLES, CONSENT AND BENEFIT SHARING: LESSONS FROM THE SAN – HOODIA CASE* (Springer Netherlands, 2009).

arrangement, in comparison with the estimated market value of products at over 3 billion USD per year in the US alone.⁵³

The *Hoodia* case raises two critical issues that underlines the bio-piracy rhetoric in the course of exploitation of TKaGRs. First, it highlights the essence of such exploitation as the act of theft, or more specifically, the access to and utilization of TKaGRs without consent of the holders. Second, it shows the unjust and inequitable manner in sharing benefits arising out of the utilization of such knowledge. A frequently used justification for such an unethical act came from the fact that the San people's knowledge had already been filtered into the *public domain*, therefore freely available for use without compensation.⁵⁴ On that account, benefit sharing arrangement in this case, whether deemed equitable or not, was considered an ethical response to the public outrage rather than a legally bound obligation before the parties involved. The search for rectification of injustice in such a context has faced insurmountable obstacles in both theoretical and practical aspects as analyzed in the discussion below.

2.2.2. The public domain and the traditional notion of ownership

The term public domain is often referred to in the sphere of intellectual property rights (IPRs). IPRs, according to the WIPO, denotes: “(...) creations of the mind: inventions; literary and artistic works; and symbols, names and images used in commerce. Intellectual property is divided into two categories: Industrial Property includes patents for inventions, trademarks, industrial designs and geographical indications. Copyright covers literary works (such as novels, poems and plays), films, music, artistic works (e.g.,

⁵³ See Wynberg, R., *Hot Air over Hoodia* (December 13, 2010), <https://www.grain.org/article/entries/4047-hot-air-over-hoodia> (Last visited on August 10, 2019); see also WIPO, *Case study: Hoodia Plant* (2008), https://www.wipo.int/export/sites/www/academy/en/about/global_network/educational_materials/cs1_hoodia.pdf (Last visited on August 10, 2019).

⁵⁴ WIPO IGC, *Note on the Meanings of the Term "Public Domain" in the Intellectual Property System with Special Reference to the Protection of Traditional Knowledge and Traditional Cultural Expressions/Expressions of Folklore*, Doc. WIPO/GRTKF/IC/17/INF/8 (November 24, 2010) at para. 2.

drawings, paintings, photographs and sculptures) and architectural design. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and broadcasters in their radio and television programs.”⁵⁵ IPRs provide a legal basis allowing the holders to recoup the initial investment and get benefits from the use of such rights, mainly through collecting remunerations within a time-bound period. The IPRs, on the other hand, corresponds with the obligation to disclose new knowledge to the public and make it freely used after the expiry of exclusive right to promote further creation in the society at large.⁵⁶ Such kind of knowledge constitutes a part of the public domain, which comprises of, firstly, knowledge after exhaustion of IP rights, secondly, knowledge not subject to IP rights due to failure to seek IP rights at the appropriate time, and thirdly, knowledge inherently ineligible for IP protection.⁵⁷ Since innovation is cumulative and develops on the basis of the existing knowledge, it is believed that a largely enriched public domain will facilitate access to the universe of knowledge, from which innovators draw ideas and inspiration to come up with new inventions and creative works, thereby contributing to the advancement of the society.⁵⁸

Nonetheless, following such a fair theory that is believed to benefit the whole society at large, TK is put under the danger of being passed into the public domain to be enjoyed by free riders. In this regard, WIPO acknowledges: “From the perspective of indigenous peoples and local communities, however, the “public domain” operates to exclude TK (...) from protection and is often used to justify their misappropriation.”⁵⁹ This

⁵⁵ WIPO, *What is Intellectual Property* (2004), <https://www.wipo.int/publications/en/details.jsp?id=99&plang=EN> (Last visited on December 14, 2019).

⁵⁶ Bently, L. & Sherman, B., *INTELLECTUAL PROPERTY LAW*, at 1 (Oxford University Press, 2008).

⁵⁷ See Taubman, A., *supra* note 3 at 544.

⁵⁸ Dulfield, G. & Suthersanen, U., *GLOBAL INTELLECTUAL PROPERTY LAW*, at 335 (UK: Edward Elgar, 2008).

⁵⁹ *Id.*

is the main cause that accelerates the phenomenon of “bio-piracy” as discussed in the preceding section.

The inclusion of TK into the public domain emanates from its ineligibility for IP protection. Considering the way by which TK is excluded from IP protection, a wide range of arguments indicate the intrinsic contradictions between TK and the IP system. They contradict each other, for instance, in the sense of value, type of ownership, way of transmission or transfer of knowledge, etc. By citing the case of patent, WIPO IGC illustrates the incompatibility between the two systems, thereby underscoring the reason why indigenous peoples cannot use the IP regime to vindicate their rights:

“(…) customary law and practice may, for example, require traditional knowledge to be kept secret, whereas disclosure is part of the core rationale of patent law. Unless an invention is fully disclosed, a patent on that invention is invalid. In addition, a patent based on traditional knowledge, even if granted, provides only time-limited protection, which may be an inadequate safeguard for knowledge that is transmitted down the generations.”⁶⁰

Likewise, discussing the way indigenous peoples acquire or declare ownership over their traditional assets, Drahos observes, “they often fail to achieve ownership of an asset because they do not have the capacity to transform the asset in a way that is required under the rules of the system (for example, the inventive step requirement as applied to biotechnology inventions)”.⁶¹ The misalignment between the two systems inadvertently places indigenous people’s assets into the *public domain*.⁶²

In response to such injustice, a long history of debate witnessed indigenous people’s resistance against the impacts of the public domain over their intangible assets. For instance,

⁶⁰ WIPO, *Customary Laws and Traditional Knowledge* (2016), at 2, <https://www.wipo.int/publications/en/details.jsp?id=3876&plang=EN> (Last visited on August 10, 2019).

⁶¹ See Drahos, *supra*, note 29 at 2.

⁶² *Id.*, at 10.

as the voice from the Representative of the Indigenous Saami Council, the public domain is just “the construct of IP system” and indigenous peoples “have rarely placed anything in the so-called “public domain”.”⁶³ In indigenous systems of knowledge, secrecy may be maintained within a group, or overtime becomes diffused out of the confines of traditional communities, but such a feature of sharing knowledge does not entail a loss of control over that knowledge, nor do mean that knowledge is open to anyone to use.⁶⁴ As an advocate of this view, Dutfield also highlights the historical and cultural context of indigenous knowledge system to interpret the connotation of custodianship beyond the concept of the public domain and concludes: “irrespective of whether it is secret, is known to just a few people, or is known to thousands of people throughout the world, (...) custodianship responsibilities do not necessarily cease to exist.”⁶⁵

In the absence of recognition of TK in the modern IP sphere, the problem lies in how to define ownership or property right concept in traditional societies? It is revealed by the anthropological literature that concepts such as “ownership” or “property” do exist in almost all traditional societies,⁶⁶ which is often translated through customary rules of each

⁶³ See Taubman, A., *supra* note 3 at 544.

⁶⁴ See Drahos, *supra*, note 29 at 10.

⁶⁵ Graham Dutfield, *INTELLECTUAL PROPERTY, BIOGENETIC RESOURCES, AND TRADITIONAL KNOWLEDGE* (Earthscan, 2004), at 96.

⁶⁶ In tracing the existence of intellectual property system in indigenous communities, Nicolas Brahy reviews: “As for intellectual property, Cleveland and Murray (1997) observe that there is unfortunately no comprehensive study available. However, they add that ethnographic examples make it clear that local and indigenous communities have notions of intellectual property and that these rights might exist at the individual level and/or group level based on residence, kinship, gender, or ethnicity. Their assertion is confirmed by several reviews of the anthropological literature (Griffiths 1993) and the results of the facts-finding missions of WIPO(2001) that identify several forms of intellectual property reminiscent of copyright, trademark, or patent”. See Nicolas Brahy, *The Contribution of Databases and Customary Law to the Protection of Traditional Knowledge*, 58(188) *INTERNATIONAL SOCIAL SCIENCE JOURNAL*. 259 (2006), at 275.

tribal group, and is viewed by scholars as “custom-based intellectual property systems”.⁶⁷ In this regard, customary rules determine the manners in which property is treated, such as the way of access to and use of knowledge. Due to the diversity of customary rules in diverse traditional communities, those systems vary among traditional groups and differ greatly from the modern IP formulations.⁶⁸ Nevertheless, given the informal nature of those systems, the enforcement of customary rules that give rise to the concept of “ownership” within a traditional community raised another debate in both academic and political forums.

2.2.3. Customary rules and its enforcement for TKaGRs protection

While indigenous peoples and local communities view customary laws as the primary mechanism to enforce their rights over TK, including property rights as previously mentioned, controversies on formal recognition of customary laws in the national and international settings show another awkwardness in TK protection. The status of customary laws within and beyond the boundary of a traditional community is inferred from a definition in the study conducted by the International Institute of Environment and Development (IIED) as follows:

“Customary ‘laws’ include customary worldviews, principles or values, rules and codes of conduct, and established practices. They are enforced by community institutions, and can have sanctions attached. They are derived from natural resource use – some practices and beliefs acquire the force of law. They are locally recognized, orally held, adaptable and evolving. Customary laws tend not to be recognized in formal courts, particularly if they conflict with formal law, because they are orally held and considered inferior.”⁶⁹

⁶⁷ Graham Dutfield, *supra* note 65, at 95.

⁶⁸ *Id.*

⁶⁹ International Institute for Environment and Development (IIED), *Protecting Community Rights over Traditional Knowledge: Implications of Customary Laws and Practices* (2009), <https://www.iied.org/protecting-community-rights-over-traditional-knowledge> (Last visited on August 10, 2019).

The definition underlines very fundamental features of a customary law system which functions as an autonomous mechanism to govern all internal affairs of a traditional community. It is, however, characterized by the informal and even inferior nature in contrast to the formal system enforced by the State. This crucial aspect is further articulated by Argumedo in his discussion on the inferior value of customary laws in relation to formal laws of the State:

“(...) what characterizes customary law is precisely that it consists of a group of customs that are recognized and shared by a collectivity (community, people, tribe, ethnic or religious group, etc.) in contrast with written law emanating from a constituted political authority, and whose application is in the hands of that authority, that is, generally the State. The fundamental difference then would be that positive law is linked to state power, while customary law is characteristic of societies lacking a State, or it simply operates without reference to the State.”.⁷⁰

In brief, while customary laws are considered as powerful internal instruments governing and protecting TK, problems arise in those areas where customary laws no longer retain their effect. It may be the circumstance where TK moves outside its traditional boundary to be an object of unauthorized use by external actors or where it falls into the public domain. In such cases, the ignorance or non-recognition by the formal system inadvertently legitimizes the act of bio-piracy and jeopardizes the TK system. The situation triggered the call for recognition and support from national and international laws to empower customary laws beyond the territories of indigenous people and local communities.⁷¹

2.3. The necessity of the ABS regime for the protection of TKaGRs

2.3.1. ABS: definition and constituent elements

⁷⁰ Busch, A. F., PROTECTION OF TRADITIONAL CULTURAL EXPRESSIONS IN LATIN AMERICA: A LEGAL AND ANTHROPOLOGICAL STUDY (Springer-Verlag Berlin Heidelberg, 2015), at 148.

⁷¹ Tobin, B., *supra* note 35.

The injustice arising in the context of TK exploitation stirred up tension between TK holders and bio-prospectors, or on the global scale, between the Global South – which hosts the vast majority of biological resources and TK and the Global North – which greedily reaps benefits from the exploitation of those resources.⁷² As a response, the concept and practice of access and benefit sharing (ABS) emerged with a view to addressing these concerns at the international and national levels.⁷³ The CBD is considered a pioneer in introducing the concept of ABS in international legal instruments and promoting its application in national frameworks.⁷⁴ The explanation below provides a brief description of the ABS mechanism based on principles and provisions provided in the CBD and the Nagoya Protocol – a binding instrument under its umbrella.

⁷² Bavikatte, K. & Robinson, D. F., *Towards A People's History of the Law: Biocultural Jurisprudence and the Nagoya Protocol on Access and Benefit Sharing*, 7(1) LAW, ENVIRONMENT AND DEVELOPMENT JOURNAL.35, at 38 (2011).

⁷³ It should be borne in mind that the CBD is just one among international instruments dealing with ABS. The International Treaty on Plant Genetic Resources for Food and Agriculture (FAO's treaty of 2001) is an example. The Treaty discusses ABS of plant GRs with the link to the farmer's rights on the basis of recognition on "the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant GRs which constitute the basis of food and agriculture production throughout the world" (Art. 9 of the Treaty). Another example, the Universal Declaration of Human Rights (1948), refers to the notion of benefit sharing more extensively by stating that "[e]veryone has the right . . . to share in scientific advancement and its benefits." Those instruments, however, deal with ABS of GRs and TKaGRs either in limited scope (ABS under the FAO's treaty only covers the 35 crops and 39 forages contained in Annex 1 of the Treaty and serves "only for the purpose of utilization and conservation for research, breeding and training for food and agriculture, provided that such purpose does not include chemical, pharmaceutical and/or other non-food/feed industrial uses" (Art. 12.3(a)) or in an anstract manner (the Universal Declaration of Human Rights refers to the distributive benefits broadly for the whole society and the human-kind).

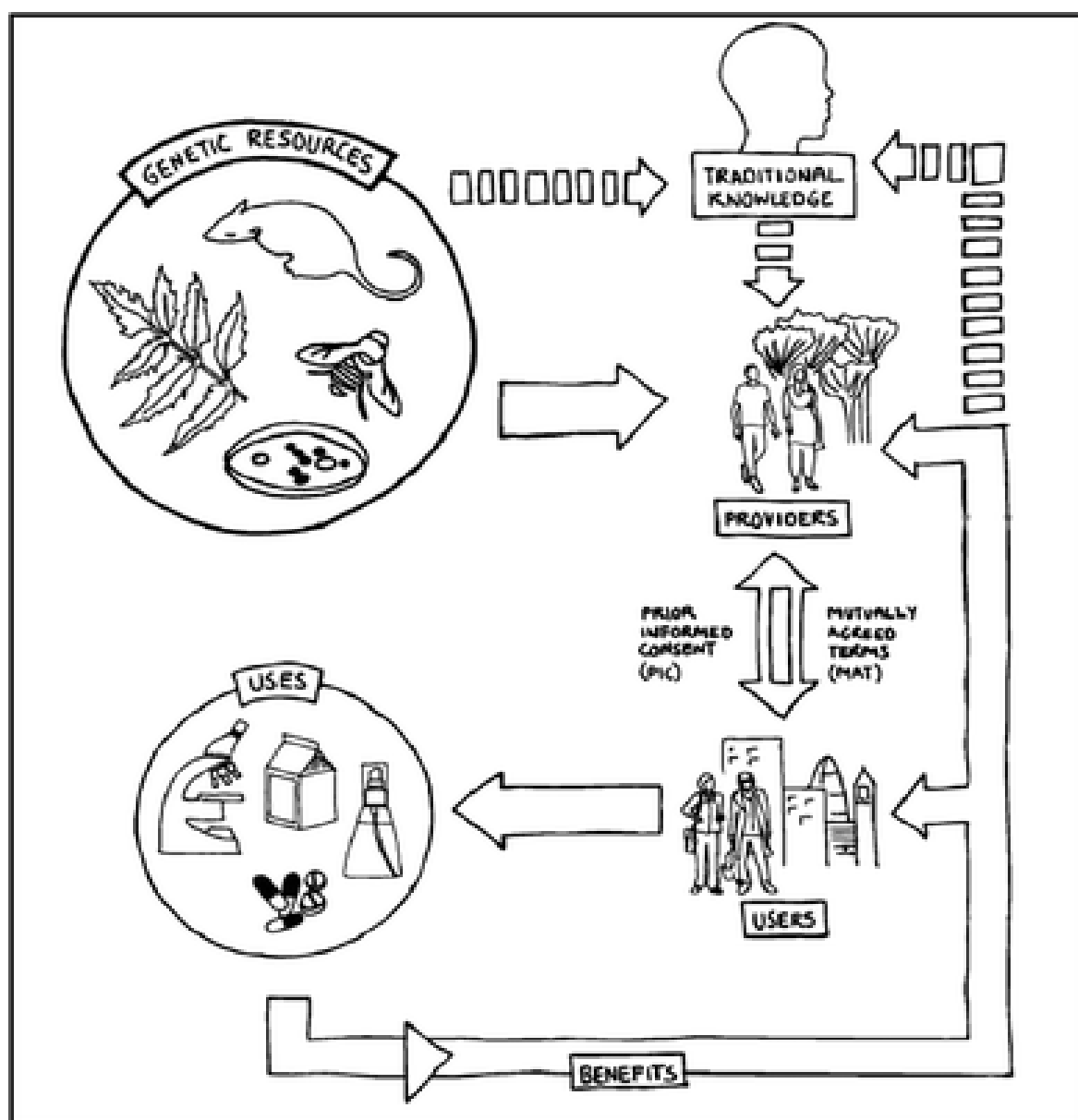
⁷⁴ Nijar, G. S., *Incorporating Traditional Knowledge in an International Regime on Access to genetic Resources and Benefit Sharing: Problems and Prospects*, 21(2), THE EUROPEAN JOURNAL OF INTERNATIONAL LAW. 457 (2010), at 459.

According to the Convention on Biological Diversity, ABS is defined as the fair and equitable sharing of the benefits arising from the use of genetic resources and associated traditional knowledge. It refers to the way in which genetic resources and/ or associated traditional knowledge may be accessed, and how the benefits resulting out of their use are shared between the people or countries using the resources (users) and the people or countries that provide them (providers).⁷⁵ In an academic view, ABS is “the fusion of two concepts which are politically and (to a very limited extent) legally or contractually linked. In general, ‘access’ is perceived to be primarily the responsibility of the source country, source community or individual, while ‘benefit-sharing’ is founded on the user (private company or entity) to be made legally effective by the country with jurisdiction over that user”.⁷⁶ Generally, access to GRs/TKaGRs is based on Prior Informed Consent (PIC) that providers grant to users, which serves as the starting point for negotiations between both parties to establish mutually agreed terms (MAT) that ensure benefits resulting from the utilization of such resources to be shared fairly and equitably. The diagram below depicts a detailed ABS process.

⁷⁵ The Secretariat of the Convention on Biological Diversity, *Introduction to Access and Benefit Sharing*, <https://www.cbd.int/abs/information-kit-en> (Last visited on August 10, 2019).

⁷⁶ Tvedt. M. W, Young. T, *Beyond Access: Exploring Implementation of the Fair and Equitable Sharing Commitment in the CBD*, IUCN Environmental Policy and Law Paper No. 67/2 (2007), at 2.

Diagram 2.1: The ABS mechanism



Source: The Secretariat of the Convention on Biological Diversity, *ABS Information Kit*, www.cbd.int/abs/awareness-raising/ (Last visited on December 20, 2019)

As indicated in the diagram, prior informed consent (PIC) and mutually agreed terms (MAT) are required before the access to GRs/TKaGRs and benefit sharing scheme must be carried out between the users and the providers. Users, as specified by the CBD Secretariat, are a diverse group, including “botanical gardens, industry researchers such as pharmaceutical, agriculture and cosmetic industries, collectors and research institutes with different purposes from basic research to development of new products”.⁷⁷ Different from the approach to the concept of “users”, the identification of providers lies in frameworks where ownership over GRs/ TKaGRs is defined. It substantially depends on the domestic laws of each contracting Party, emanating from the principle of sovereign rights over natural resources under the Parties’ jurisdictions as enshrined in the CBD.⁷⁸ In practice, providers of GRs may be the State (for countries adopting entire-people ownership over GRs, like Vietnam) or individuals (for countries recognizing private ownership, *inter alia*, over GRs, like Australia). Whereas, providers of TKaGRs are primarily indigenous peoples and local communities, except for the situation where the State acts as the representative for TKaGRs holders if those holders cannot be identified (as the case with Brazilian and French legislations).⁷⁹

Prior informed consent (PIC) is the permission given by the competent national authority of a provider country (or holders of TKaGRs) to a user prior to accessing GRs/TKaGRs. The requirements for PIC are legal certainty, clarity and transparency of access and benefit-sharing in domestic legislation.⁸⁰ Therefore, providers should be vested with a right to receive all access - related information, including the identities of the users, the objectives of access and utilization, potential risks arising from such access and

⁷⁷ The Secretariat of the Convention on Biological Diversity, *Introduction to Access and Benefit Sharing*, *supra* note 75, at 4.

⁷⁸ The Preamble of the CBD affirms: “the conservation of biological diversity is a common concern of humankind”, but reaffirms: “States have sovereign rights over their own biological resources”.

⁷⁹ This point is subject to further elaboration in Chapter 3.

⁸⁰ Article 6(2) of the Nagoya Protocol.

utilization, based on which decision to or not to allow access will be made by the providers. Access may serve diverse purposes of users, including commercial (commercialization of TKaGRs-derived products) or non-commercial (purely for research) purposes. The Nagoya Protocol requires its contracting Parties to specially consider the differentiation in regulating access of those two types of purposes.⁸¹ Accordingly, contingent upon domestic laws, each type of access purposes may subject to different requirements and procedures.

PIC is followed by mutually agreed terms (MAT) - an agreement (under the type of contract) reached between the providers and users of GRs/ TKaGRs on the conditions of access and use of the resources, and the benefits to be shared between the both parties. The requirements for MAT are: “clear rules and procedures for MAT shall be set out in writing, with a dispute settlement clause; terms on benefit-sharing, including in relation to intellectual property rights; terms on subsequent third-party use, if any; and terms on changes of intent, where applicable”.⁸² The benefits to be shared can be monetary, such as up-front payments, milestone payments, payments of royalties, special fees to be paid to trust funds supporting conservation and sustainable use of biodiversity, research funding, joint ownership of relevant intellectual property rights. Non-monetary benefits are also anticipated, including, *inter alia*, sharing of research and development results, participation in product development, strengthen capacities for technological transfer, contributions to the local economy. The Nagoya Protocol provides a list of types of monetary and non-monetary benefits⁸³ but does not restrict the implementation of the contracting Parties within the given scope.

Although the ABS scheme involves two prime actors – the users and the providers, there may be intervention from public authorities and the involvement of non-governmental organizations (NGOs) to enhance transparency and ensure equity in the context of imbalance in bargaining power between the providers and the users. The presence of these

⁸¹ Art. 8 of the Nagoya Protocol

⁸² Art. 2(2,f) of the Nagoya Protocol.

⁸³ The Annex of the Nagoya Protocol

actors in the ABS processes is determined by domestic frameworks or on the case by case basis (further analyzed in Chapter 3).

Primarily, ABS is stipulated in Article 15 of the CBD.⁸⁴ In regard of TKaGRs, ABS is interpreted in combination with Article 8(j), which was said to be ambiguous to deal with TKaGRs of indigenous peoples and local communities.⁸⁵ This has been more or less addressed by some protocols under the CBD's umbrella, including the Nagoya Protocol as a binding instruments, as well as recommendations through Conferences of the Parties (COP) and Meetings of the Parties (MOP) of the CBD (subject to further clarification in the Part 2.3.4).

2.3.2. The nature of the ABS scheme with regard to TKaGRs

As a channel for compensatory justice

⁸⁴ Article 15 of the Convention on Biological Diversity substantially deals with ABS concerning genetic resources with the primary roles and authority vested to contracting State whose sovereign rights over genetic resources under its jurisdiction is officially acknowledged under the Convention. Particularly, paragraph 7 of the Convention reads: "Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, and in accordance with Articles 16 and 19 and, where necessary, through the financial mechanism established by Articles 20 and 21 with the aim of sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the Contracting Party providing such resources. Such sharing shall be upon mutually agreed terms." Whereas, Article 8(j) of the Convention mentions TKaGRs with a little regard to the ABS: "Each contracting Party shall, as far as possible and as appropriate: Subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices." The weak connection between TKaGRs and the ABS regime has been somewhat tackled with through a number of subordinate instruments under the auspice of the Nagoya Protocol and the working papers compiled by the Convention Secretariat.

⁸⁵ Tobin, B., *supra* note 35.

A previous part of this dissertation cited the *Hoodia case* in illustrating the bio-piracy concept. The *Hoodia case* raises a critical issue regarding the need for rectification of unjust exploitation of traditional knowledge by non-owners, which cannot find an answer from the conventional legal approach. The adoption of the ABS regime under the CBD's auspice demonstrated global efforts in bridging the gap of the world's justice system. Specifically, it is expected to function as a tool to curb illegal appropriation of traditional knowledge, and require proportional compensation or exchange if such knowledge is used by the outsiders. In other words, the ABS mechanism works out on the basis of the principle of compensatory justice⁸⁶, which seeks to bring justice to the harm-suffering party by legally requesting comparable remedy from the harm-inflicting party. Such reflection of compensatory justice in the ABS scheme is further reinforced in the Preamble of the CBD that recognizes the contribution of "many indigenous and local communities embodying traditional lifestyles on biological resources", and subsequently speaks of the "desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices."

In this aspect, however, a point of note is that the principle of compensatory justice is substantially grounded on proprietary nature of the object to which the harm is inflicted.⁸⁷ On that account, the knowledge must manifest itself in the form of a property to qualify for protection and remedy from unjust exploitation or misappropriation. Numerous efforts have been made in different academic and political forums to justify for protection of TK as a specific type of property. Nonetheless, the practical question raises regarding how to codify and enforce such ideas, or more specifically, by what mechanism traditional knowledge is officially recognized as a property. In this sense, the answer

⁸⁶ Compensatory justice "refers to the provision of resources to a victim of injustice with the goal of minimizing or reversing the impact of harm done by the injustice." Mullen, E., & Okimoto, T. G. *Compensatory justice*, in OXFORD LIBRARY OF PSYCHOLOGY. THE OXFORD HANDBOOK OF JUSTICE IN THE WORKPLACE (R. S. Cropanzano & M. L. Ambrose (eds), Oxford University Press, 2015), at 477.

⁸⁷ Castle, D. & Gold, E. R., *supra* note 5, at 11.

cannot be found from the CBD itself, but from other supportive mechanisms contributing to enforcing the ABS mechanism.

As a tool to benefit all involved parties and society at large

It is noteworthy that the ABS system finds it distinct from other property regimes. It is not intended to grant any exclusive rights over TKaGRs to communities or indigenous people, but to call for the recognition and respect of TKaGRs, and empowerment of their holders in the utilization of such TKaGRs in developmental programs. Therefore, the ABS model is designed in the form of a contract, which functions based on the mutual trust between the providers (indigenous communities) and the users (scientists, research institutes, corporations, etc.). It reflects the win-win solution that accommodates desires of both sides: the providers – with the desire to be recognized of socio-economic and cultural values embedded in their TKaGRs, and the users – with the desire to access and utilize TKaGRs for scientific and developmental purposes. Above all, through capacity building program for indigenous communities as a specific type of non-monetary benefits, and long-term partnership between TKaGRs holders and users, the ABS model promotes the preservation and sustainable development of TKaGRs in particular and of bio-diversity in general – the utmost objective set out under the framework of the CBD. Furthermore, with the promotion of scientific and technological transfer set forth as one objective of the ABS mechanism, it is also viewed as a transformation of the distributive justice⁸⁸ to bring welfare to the society at large, as De Jonge, B. and Korthals, M. emphasize: “What we do want to say is that benefit sharing should not merely be seen as an instrument of compensation or exchange based on the concept of commutative justice. Instead, and in the face of the harsh reality that more than 800 million people are undernourished, benefit

⁸⁸ According to Dictionary of Social Sciences, distributive justice is concerned with how goods, honors, and obligations are distributed within a community. Distributive claims can be (and have been) justified on the basis of need moral standing, precedent, rights (especially property rights) and aggregate social welfare, among others. See Craig Calhoun (Ed.), *DICTIONARY OF SOCIAL SCIENCES*, (Oxford University Press, 2002) at 128.

sharing should also be grounded in the concept of distributive justice, as it can be a tool to improve food security.”⁸⁹

Notwithstanding the fact that the ABS and the IP are two independent regimes under two separate international frameworks and differ from each other in approaching the rights of holders, a lot of debates have been seen in both academic and political agendas regarding the interface between the two systems. As previously discussed, the IP system is seen as a vehicle of biopiracy since it assigns private rights over knowledge that is ineligible for IP protection, which runs counter to the principle of prior informed consent enshrined in the CBD framework. Illustrated in the context of patent, it is argued that the IP system unwittingly facilitates bio-piracy due to its failure to define patentability in the manner to avoid misappropriation over TKaGRs by patent applicants. More concretely, since TKaGRs, by its nature as an oral or unwritten knowledge, is normally excluded from *prior art*, therefore is freely available for any purpose, including developing patented inventions.⁹⁰ More debatedly, the existing international patent framework does not incorporate the requirement of prior informed consent or benefit sharing related to inventions based on TKaGRs. Janet Bell thus notes that the CBD model of benefit sharing is a far reaching goal if IPRs are secured for any products of bioprospecting acts.⁹¹ In recognizing such great impacts of the IP system on the implementation of the CBD objectives, the CBD calls for the cooperation from IP related international laws in the manner that “should be supportive and do not run counter to the CBD’s objectives...”⁹² This call gave rise to the establishment of the World Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore and the

⁸⁹ De Jonge, B. and Korthals, M., *Vicissitudes of benefit sharing of crop genetic resources: Downstream and upstream*, 6(3) DEVELOPING WORLD BIOETHICS. 144 (2007), at 149.

⁹⁰ See Dutfield, G., *supra* note 50 at 104-105.

⁹¹ Svarstad, H., *A Global Political Ecology of Bioprospecting*, in *POLITICAL ECOLOGY ACROSS SPACES, SCALES, AND SOCIAL GROUPS* (Paulson, S. & Gezon, L. L., Eds., Rutgers University Press, 2005), at 246.

⁹² Art. 16(5) of the CBD.

TRIPS Council for reviewing the relationship between the TRIPS Agreement and the CBD (further elaborated in the Part 2.3.3.2).

Although the ABS regime does not aim to grant any exclusive right over TKaGRs to their holders, the recognition of ownership/ stewardship over TKaGRs, or at least the link between TKaGRs with a specific holder is regarded as a pre-condition to trigger the ABS process. That recognition is seen as a counter measure against impacts of the public domain and plays as the starting point for every ABS relation. Among applied methods is establishment of TK registration system. Generally, that system functions to bring to public notice the existence of a particular TKaGRs and its association with a specific holder. The system may serve different purposes, including, but not limited to, grant of quasi-intellectual property rights over TKaGRs.⁹³ However, within the scope of this dissertation, I do not intend to deal with IPRs regime for TK that is still under debate,⁹⁴ but refer to the registration system as a supportive mechanism for the identification and recognition of TK and its holders with a view to achieving the primary objectives of ABS (the registration system will be further discussed in Part 3.3).

2.3.3. The significance of the ABS regime in the view of TKaGRs protection

2.3.3.1. Sustainability justification

As discussed earlier in this chapter, the biological harmony between indigenous peoples and the natural environment dates back to a long history. In the benign relationship with nature, indigenous people, through their accumulated knowledge, maintained and sustainably used biological resources for their long-term survival. TKaGRs, therefore, has drastically contributed to sustainable development by maintaining and enriching biological resources while substantially advancing the livelihoods of indigenous communities for

⁹³ Till date, there are some countries, including Panama, South Africa and the Philippines, introducing frameworks on collective IPRs for TKaGRs, however, their systems have still been under criticism for lack of clarity and enforceability.

⁹⁴ See discussions on the misalignment between IPRs and TKaGRs in Part 2.2 of this dissertation.

generations. However, at the global scale, biodiversity is declining at an alarming rate, which is significantly attributable to bio-piracy⁹⁵ and change of traditional lifestyle of indigenous people that has gradually jeopardized the sustainable tie with the nature.⁹⁶ In such a situation, the World Summit on Sustainable Development suggested:

“This trend can only be reversed if the local people benefit from the conservation and sustainable use of biological diversity, in particular in countries of origin of genetic resources.”⁹⁷

In this regard, the mentioned objective would be achieved by protecting TKaGRs and ensuring that the benefits resulting from its utilization flow back to indigenous and local communities. Such benefits, on the one hand, play as a momentum for maintenance of sustainable lifestyles of indigenous people, on the other hand, are expected to be used in such a way as to promote conservation and sustainable use of biological diversity.⁹⁸ Nonetheless, such benefits should be proportional to historical and upcoming efforts for conservation made by indigenous peoples and local communities. Those efforts accumulated throughout history and would be extensively upheld by future generations. As such, the well-deserved compensation or reward is also interpreted as “fair and equitable” as in the wordings of the CBD. It reflects one of the main features of the CBD that

⁹⁵ Chaturika, L. A., *Biopiracy and Its Impact on Biodiversity: A Critical Analysis with Special Reference to Sri Lanka*, 2(3) INTERNATIONAL JOURNAL BUSINESS, ECONOMICS AND LAW. 48 (2013), at 49.

⁹⁶ WIPO, *Report on Fact-Finding Missions on Intellectual Properties and Traditional Knowledge* (2001), at 214, https://www.wipo.int/edocs/pubdocs/en/tk/768/wipo_pub_768.pdf (Last visited on August 10, 2019).

⁹⁷ United Nations, *Report of the World Summit on Sustainable Development: Johannesburg, South Africa*, 26 August – 4 September 2002 (New York: United Nations, 2002) at 36.

⁹⁸ Morgera, E. & Tsioumani, E., *The Evolution of Benefit Sharing: Linking Biodiversity and Community Livelihoods*, 19(2) REVIEW OF EUROPEAN COMMUNITY & INTERNATIONAL ENVIRONMENTAL LAW.150 (2010), at 156.

“combines the aim of conserving biological diversity with economic objectives”.⁹⁹ This approach is premised on an underlying assumption that effective conservation cannot be achieved without sufficient financial and economic benefits to underpin conservation efforts.¹⁰⁰ In this sense, Paul A. Samuelson and William D. Nordhaus remark:

“Genetic resources and associated traditional knowledge are expensive to conserve but cheap to access. To the extent that the rewards to conservation are inappropriable, we would expect conservation efforts to be underfunded...an international regime governing access and benefit-sharing can create oligopoly rights. The purpose is to give the countries of origin and communities special protection against the information’s being accessed and used by others without compensation to all the countries and communities, which have conserved the respective habitat and knowledge...Why would governments actually encourage oligopolies?...by creating a cartel over genetic resources and associated traditional knowledge, user countries encourage provider countries and communities to invest time, effort, and money in conserving habitats and knowledge.”¹⁰¹

In the political sphere, the link between ABS regarding TKaGRs and sustainable development was also highlighted in the Agenda 21 which called upon governments to “recognize and foster the traditional methods and the knowledge of indigenous peoples and their communities relevant to the conservation of biological diversity and the sustainable use of biological resources, and ensure the opportunity for the participation of those groups in the economic and commercial benefits derived from the use of such traditional methods

⁹⁹ Klemm. S. B, Martinez. S, ACCESS AND BENEFIT-SHARING: GOOD PRACTICE FOR ACADEMIC RESEARCH ON GENETIC RESOURCES (Swiss Academy of Sciences, 2006), at 11.

¹⁰⁰ Jeffery. I. M, Firestone. J, Bubna. L. K, BIODIVERSITY CONSERVATION, LAW AND LIVELIHOODS, BRIDGING THE NORTH – SOUTH DIVIDE (Cambridge University Press, 2008), at 15.

¹⁰¹ Paul A. Samuelson and William D. Nordhaus, ECONOMICS (New York: McGraw-Hill Irwin, 18th ed. 2005), at 195.

and knowledge”.¹⁰² ABS, by that account, is viewed as a sustainable approach in the protection of TKaGRs.

2.3.3.2. Economic justification

Fundamentally, the ABS model was designed with the aim to rectify the inequitable situation where TKaGRs was used without compensation to the providers of such resources.¹⁰³ Therefore, ABS is primarily viewed as a tool to curb bio-piracy, or in other words, to achieve environmental justice, which drove the negotiation of the CBD provisions on ABS.¹⁰⁴

However, as David Castle & E. Richard Gold suggest, the ABS regime should bring more proactive effects that invite cooperation and coordination between the users and providers to obtain mutual benefits (so-called distributive equity) rather than merely seek to recover the past harms (so-called compensatory equity).¹⁰⁵ It is, therefore, regarded as “a mechanism to distribute goods that are of interest to all”. Cooperation – a prerequisite condition for successful ABS – is naturally stimulated by potential interests anticipated by both the users and the providers. In the view of industry sectors, as prominent users, benefits accrued from the use of TKaGRs are evidently recognizable as illustrated in the table below.

¹⁰² United Nations, *Agenda 21*, Doc. A/CONF 151/26 (June 14, 1992), Vol. I, Annex I, para. 15(4-g).

¹⁰³ Morgera, E., et al. (Ed.), *THE 2010 NAGOYA PROTOCOL ON ACCESS AND BENEFIT SHARING IN PERSPECTIVE: IMPLICATIONS FOR INTERNATIONAL LAW AND IMPLEMENTATION CHALLENGES* (Martinus Nijhoff Publishers, 2013), at 2.

¹⁰⁴ *Id.*

¹⁰⁵ Castle, D. & Gold, E. R., *Traditional Knowledge and Benefit Sharing: From Compensation to Transaction*, 8th ICABR International Conference on Agricultural Biotechnology: International Trade and Domestic Production, Ravello (Italy), July 8 - 11, 2004.

Table 2.2: The use of TKaGRs by industry sectors

Industry sectors	Manner of use
Pharmaceutical industry	TK is not considered a useful tool during the early stages of high-throughput screening; but once an active compound is identified, most companies use TK (where available) to guide subsequent research. Some may use TK as the basis for setting up screens to select for competing (or better) compounds with similar bioactivity (ie as a reference compound to select more active synthetic analogue compounds).
Biotechnology	Many biotechnology applications (eg brewing and bread-making) are based on traditional knowledge dating back millennia
Horticulture	Many popular ornamental varieties and horticultural vegetable crops owe their existence to traditional domestication and selection over long period of time
Botanical medicine	TK is used as the basis of identifying potential new product development; safety and efficiency studies; formulation; is widely use in marketing commercial products; and sometimes is used in developing wildcrafting or cultivation strategies for raw materials
Personal care and cosmetics	TK is used as the basis of identifying potential new leads, and to direct research on the commercial potential of species; is used in safety and efficacy studies; is widely used in marketing commercial products; and sometimes is used in developing sourcing strategies for raw materials

Source: Laird, S. A., (ed.), BIODIVERSITY AND TRADITIONAL KNOWLEDGE: EQUITABLE PARTNERSHIP IN PRACTICE at 271 (Earthscan Publication, 2002).

Correspondently, in the side of the providers, since the majority of TKaGRs holders come from poor communities and countries,¹⁰⁶ ABS may bring new income opportunities, thereby alleviating poverty and improving livelihoods of people and communities holding TKaGRs.¹⁰⁷ This market-based approach demonstrates a win-win solution with mutual benefits for all if an agreement in good faith is concluded between the both parties.

However, since almost all TK holders put the utmost value on cultural and spiritual aspects and consider TK commodification offensive to the spirituality or dignity of their native heritage,¹⁰⁸ the economic gain of TKaGRs through the ABS mechanism should be placed in the original cultural context. In the other words, conformity with customs and beliefs of local communities is essentially required in economic exploitation over TKaGRs.¹⁰⁹ To that end, the conditions of access and use of TKaGRs must be fully complied with at first before economic consideration is taken in every ABS case.

2.3.3.3. Developmental justification

Potential contributions of TKaGRs to modern sciences and innovations have been undeniably admitted. Nevertheless, TKaGRs is facing the threat of getting lost. A cause of the loss, *inter alia*, is the secrecy system maintained within the TKaGRs holding communities for which no transmission to the outsiders is allowed. The secrecy is assumed to be passed on to young generations who have increasingly imbibed Western cultures and no longer keep interest in traditional practices.¹¹⁰

¹⁰⁶ Dulfield, G. & Suthersanen, U., *supra* note 44 at 329.

¹⁰⁷ Richerzhagen, C., *PROTECTING BIOLOGICAL DIVERSITY: THE EFFECTIVENESS OF ACCESS AND BENEFIT SHARING REGIMES*, at 331 (New York: Routledge, 2010).

¹⁰⁸ See Taubman, A. & Leistner, M., *supra* note 10 at 62, see also Paternson, R. K. & Karjala, D. S., *supra* note 2, at 633-634.

¹⁰⁹ See Lixinski, L., *INTANGIBLE CULTURAL HERITAGE IN INTERNATIONAL LAW*, at 199 (Oxford University Press, 2013).

¹¹⁰ See WIPO, *supra* note 61 at 214.

Some commentators suggest that the traditional secrecy system, among other social structures, operates as a substitute in the absence of formal legal structures protecting the art of indigenous peoples and local communities. In order to restrain others from collecting and using of TKaGRs, they simply do not communicate it with the outsiders.¹¹¹ Such a negative attitude towards sharing of knowledge not only puts TKaGRs at the risk of getting lost, but also inadvertently constrains contributions of TKaGRs to modern sciences and innovations.

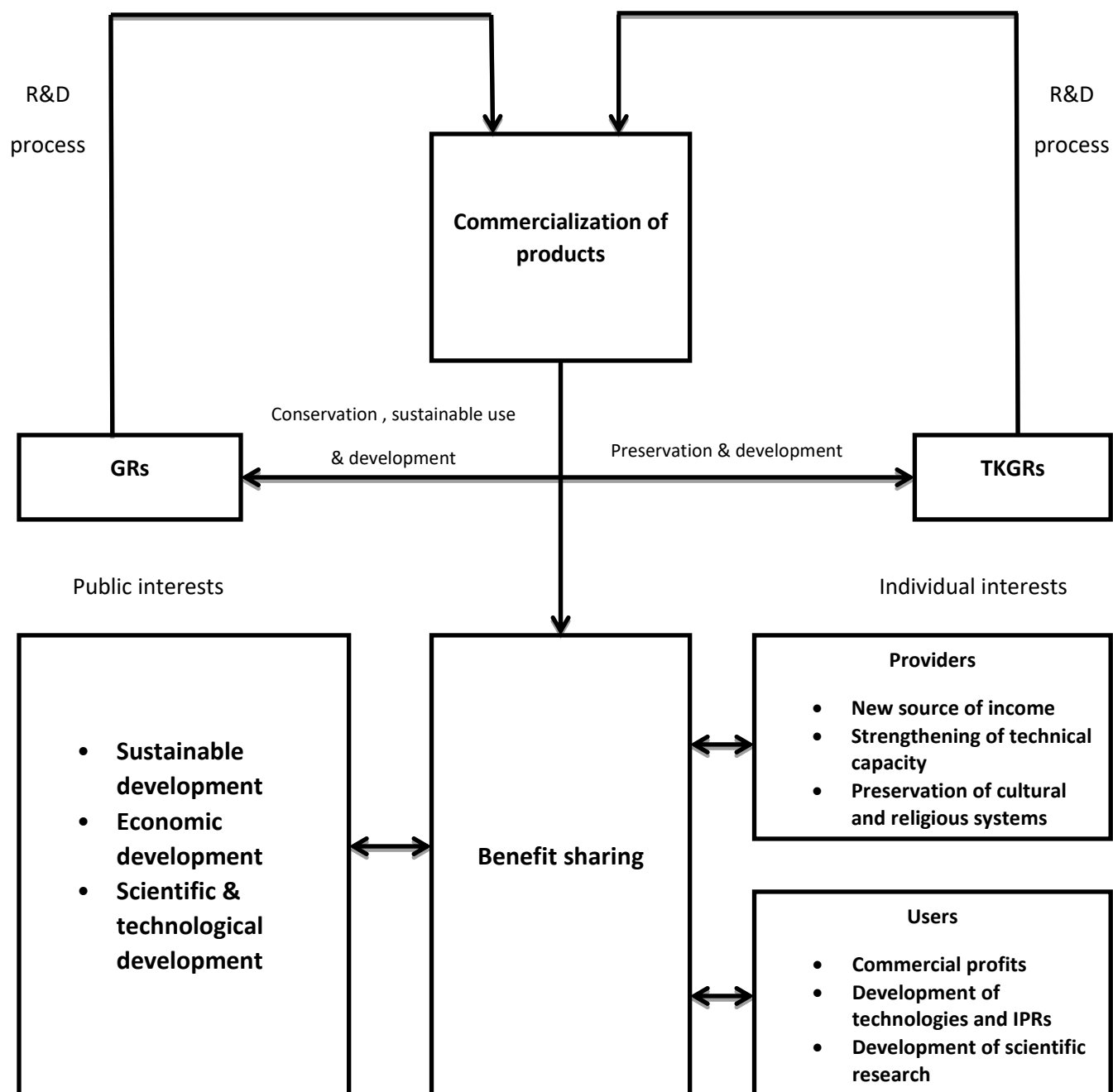
On the one hand, the fight against bio-piracy should be done to prevent unjust misappropriation over TKaGRs, and on the other hand, desires to access TKaGRs in good faith of potential users, such as research institutions and corporations, should also be acknowledged. The bad perception of TKaGRs holders on bio-prospecting activities, according to Carvalho, is frequently based on the erroneous assumption of bad faith of bio-prospectors, which seriously harms the public image of corporations and research institutions and restrains them from approaching TKaGRs holders.¹¹² In this aspect, the ABS mechanism, characterized by the mutual trust between both parties, is of significance to promote the share of knowledge, not only for the preservation of TKaGRs in the long-term, but also for the realization of its scientific values added to the development of modern sciences and innovations.

In summary, benefits distributed to individuals and the whole society in the ABS model may be briefly described through the diagram as follows:

¹¹¹ Carvalho, N., *From the Shaman's Hut to the Patent Office: A Road Under Construction*, in BIODIVERSITY AND THE LAW: INTELLECTUAL PROPERTY, BIOTECHNOLOGY AND TRADITIONAL KNOWLEDGE, at 245 (McManis, C. R, ed., Earthscan, London, 2007).

¹¹² See Carvalho, *id.* at 246.

Diagram 2.2: The ABS model with benefits distributed to individuals and the whole society



Source: created by the author

2.3.4. The ABS concerning TKaGRs under related international agreements

2.3.4.1. The Convention on Biological Diversity and its subordinate instruments

In the system of international environmental laws, the 1992 Convention on Biological Diversity (CBD) is viewed as a pioneer in introducing and promoting the application of the ABS mechanism in regard to TKaGRs. The CBD acknowledges the need to respect TKaGRs, promotes access to and use of such knowledge with the consent of its holders, and encourages the fair and equitable sharing of the benefits resulting from its use. The ABS mechanism as applied to TKaGRs under the CBD is often interpreted in combination of Art. 15 and Art. 8(j).

Since the CBD has been criticized for its “symbolic” nature without real legal force¹¹³, numerous attempts have been made to place the framework into practical implementation. Those efforts are illustrated by a number of non-binding instruments under the umbrella of the CBD, including the 2002 Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization and the 2004 Akwé: Kon Voluntary Guidelines for the Conduct of Cultural, Environmental and Social Impact Assessments. The Bonn guideline calls for respecting legitimate rights of indigenous peoples and local communities and ensuring compliance with principles of PIC and MAT in accessing TKaGRs. The Akwé: Kon guideline lays out voluntary rules to ensure PIC and full involvement of TKaGRs holders in the course of implementation of developmental activities that may be advertently harmful to the cultural and knowledge system of indigenous people and local communities.

The 2010 Nagoya Protocol on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization (the Nagoya Protocol) paved a new

¹¹³ Brand, U. et al., CONFLICT IN ENVIRONMENTAL REGULATIONS AND THE INTERNATIONALIZATION OF THE STATE: CONTESTED TERRAINS, at 78 (Routledge, 2008).

era for enforcement of the ABS scheme worldwide.¹¹⁴ Its aim is the implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising out of the utilization of genetic resources, thereby contributing to the conservation and sustainable use of biodiversity. The protocol was adopted on 29 October 2010 in Nagoya, Japan, and entered into force on 12 October 2014. Accordingly, contracting Parties are required to take measures to guarantee that TKaGRs is accessed with the prior informed consent or approval of indigenous peoples and local communities and based on mutually agreed terms. Moreover, countries must support and recognize the customary laws of indigenous peoples and local communities. The obligations of contracting parties under the Nagoya Protocol are summarized as below:

Table 2.3: Core obligations on TKaGRs of contracting parties to the Nagoya Protocol

Article 5.5 Fair and equitable benefit sharing	Each Party shall take legislative, administrative or policy measures, as appropriate, in order that the benefits arising from the utilization of traditional knowledge associated with genetic resources are shared in a fair and equitable way with indigenous and local communities holding such knowledge. Such sharing shall be upon mutually agreed terms.
Article 7 Access to TKAGRS	In accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that traditional knowledge associated with genetic resources that is held by indigenous and local communities is accessed with the prior and informed consent or approval and involvement of these indigenous and local communities, and that mutually agreed terms have been established.

¹¹⁴ See Glowka, L. & Normand, V., *The Nagoya Protocol on Access and Benefit-sharing: Innovations in INTERNATIONAL ENVIRONMENTAL LAW*, in THE 2010 NAGOYA PROTOCOL ON ACCESS AND BENEFIT – SHARING IN PERSPECTIVE, at 21-52 (Morgera, E., et al., Martinus Nijhoff Publishers, 2013).

Article 11.2 Transboundary cooperation	Where the same traditional knowledge associated with genetic resources is shared by one or more indigenous and local communities in several Parties, those Parties shall endeavour to cooperate, as appropriate, with the involvement of the indigenous and local communities concerned, with a view to implementing the objective of this Protocol.
Article 16 Compliance	<ol style="list-style-type: none"> 1. Each Party shall take appropriate, effective and proportionate legislative, administrative or policy measures, as appropriate, to provide that traditional knowledge associated with genetic resources utilized within their jurisdiction has been accessed in accordance with prior informed consent or approval and involvement of indigenous and local communities and that mutually agreed terms have been established, as required by domestic access and benefit-sharing legislation or regulatory requirements of the other Party where such indigenous and local communities are located. 2. Each Party shall take appropriate, effective and proportionate measures to address situations of non-compliance with measures adopted in accordance with paragraph 1 above. 3. Parties shall, as far as possible and as appropriate, cooperate in cases of alleged violation of domestic access and benefit-sharing legislation or regulatory requirements referred to in paragraph 1 above.

Source: the Nagoya Protocol, synthesized by the author

As indicated in those listed provisions, the languages of the Protocol (with specific reference to TKaGRs) are somewhat stronger than those in the CBD. Nonetheless, the Protocol still facilitates a significant magnitude of flexibility from the contracting Parties,

reflecting through the intensive use of qualifiers such as “as appropriate”, “as far as possible”. It is therefore observed that the Protocol remains to be viewed as “a blot on the international multilateral rule-making process”¹¹⁵ despite a long-lasting negotiation, which leaves large discretion to contracting parties to determine governing framework under their domestic legislations.¹¹⁶

2.3.4.2. The WTO forum and the WIPO IGC

As previously described, the CBD and subordinate instruments promote the application of the ABS mechanism with the aim to prevent misappropriation of TKaGRs and to ensure that indigenous peoples and local communities control its use and benefit from its exploitation. Extended discussions have also taken place to consider measures from the perspective of intellectual property or *sui generis* systems that may be designed to enable indigenous peoples and local communities to actively protect their TKaGRs.

In that vein, the World Intellectual Property Organization (WIPO) established the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (WIPO IGC) in 2000. Since its establishment, the WIPO IGC has, in accordance with its mandate, undertaken text-based negotiations to reach agreement on a text(s) of an international legal instrument(s), which aim(s) to effectively protect of traditional knowledge, traditional cultural expressions, and genetic resources.¹¹⁷ Negotiations are still on going in search of a global mechanism for the protection of traditional knowledge. The aim of such mechanism, as reflected in the most updated draft, is to, *inter alia*, contribute to “the protection of innovation and to the transfer and dissemination of knowledge, to the mutual advantage of holders and users of protected traditional knowledge and in a manner conducive to social and economic welfare and to a

¹¹⁵ See Morgera, E. et al. (Ed.), *supra* note 44, at 249.

¹¹⁶ *Id.*

¹¹⁷ WIPO, *Intergovernmental Committee (IGC)*, <https://www.wipo.int/tk/en/igc/> (Last visited on December 14, 2019).

balance of rights and obligations”.¹¹⁸ In like manner, under the mandate of the 2001 Doha Declaration which requests the Council of The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Council) to look at the relationship between the TRIPS Agreement and the CBD, the TRIPS Council began to examine the interface between the two regimes, including those related to TK.¹¹⁹ In those two forums, the two key demands for TKaGRs protection have arisen in the policy debate: (1) *Defensive protection*, which aims to prevent third parties from obtaining patent over TKaGRs and (2) *Positive protection*, which aims at enabling TKaGRs holders to actively acquire legal rights over TKaGRs or seek remedies against the misuse of TKaGRs.

The *defensive protection* is recommended to be done through several measures, such as Documentation of TKaGRs or Disclosure of origin. Documentation of TKaGRs, which finds its origin from India’s experience¹²⁰, suggests to fix TKaGRs in material forms and make it available to patent offices, thereby invalidating claimed patents established on the basis of the TKaGRs in question.¹²¹ In a more active mode, Disclosure of origin is an approach raised in the forum of the TRIPS Council by the group of developing countries, which aims to amend the TRIPS agreement so that patent applicants are required to disclose the origin of GRs and TKaGRs and show evidence of prior informed consent, as well as fair and equitable benefit sharing.¹²²

¹¹⁸ WIPO, *The Protection of Traditional Knowledge: Draft Articles*, Doc. WIPO/GRTKF/IC/40/18 (June 19, 2019).

¹¹⁹ Council for Trade-Related Aspects of Intellectual Property Rights, *Review of the Provisions of Article 27.3(b): Illustrative List of Questions*, Doc. IP/C/W/122 (World Trade Organization” Geneva, 1998).

¹²⁰ See Part 3.3.2.

¹²¹ WIPO, *Documenting Traditional Knowledge – A Toolkit*, https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1049.pdf (Last visited on December 14, 2019).

¹²² WTO, *TRIPS: Reviews, Article 27. 3 (B) and Related Issues - Background and the Current Situation*, https://www.wto.org/english/tratop_e/trips_e/art27_3b_background_e.htm (Last visited on December 14, 2019).

Protection of TKaGRs is also thought to be achievable through various ways of the *positive protection*, including existing IPRs, extended or adapted IPRs specifically focused on TKaGRs, or new, stand-alone sui generis systems for TKaGRs. For example, it is suggested that somewhere within the existing framework of IPRs, such as trade secret or geographical indications, is still supportable for TK protection. In *sui generis* approaches, a novel system may be developed to fill the gaps in the existing framework of IP. Or other areas of legal mechanisms, such as contract law, tort law, unjust enrichment or so on, may be possible options in the absence of a formal mechanism specific to TKaGRs.¹²³

It should be stressed that all of the proposed approaches have still been in the form of recommended measures sourced from the calls of different groups during negotiation, and from compiled studies of the WIPO IGC as the result of fact-finding surveys on relevant national experiences. Members of negotiations remain divided over substantial matters. For instance, while developing countries urged for application of Disclosure of origin to bridge the gaps between the CBD and TRIPS, industrialized countries insisted on the view that the TRIPS Agreement is not the appropriate instrument to regulate ABS.¹²⁴ Likewise, while developing countries sought for an international legally binding instrument as the outcome of the negotiations within WIPO IGC, developed countries, in response, submitted proposals for soft instruments.¹²⁵ Therefore, the last updated draft texts (framed

¹²³ WIPO, *Intellectual Property, Traditional Knowledge and Traditional Cultural Expression/ Folklore: A Guide for Countries in Transition* (2013), available at https://www.wipo.int/edocs/pubdocs/en/wipo_pub_transition_9.pdf (Last visited on December 14, 2019).

¹²⁴ WIPO, *Study on the Relationship between an International Regime on Access and Benefit Sharing and other International Instruments and Forums that Govern the Use of Genetic Resources*, Doc.UNEP/CBD/WG-ABS/7/INF/3/Part.2 at para. 11 (3 March 2009).

¹²⁵ See, for instance, the Joint Recommendation on Genetic Resources and Associated Traditional Knowledge: Document Submitted by the Delegations of Canada, Japan, Norway, the Republic of Korea, and the United States of America, Doc. WIPO/GRTKF/IC/31/5 (August 23, 2016).

out in June 2019) still reflect divergent perspectives with different approaches enclosed in brackets.¹²⁶

In sum, notwithstanding the diversity of global forums for TKaGRs protection, the efficacy of those regulatory measures has been considered insufficient to curb the misappropriation of resources and knowledge.¹²⁷ It is even said to exacerbate the legal uncertainties of the framework for TK protection.¹²⁸ Drahos views such arrangements under international laws as “symbolic recognition” to the value of indigenous peoples’ knowledge.¹²⁹ This situation leaves room for initiatives from the national level, which put ABS with respect to TKaGRs in the context of domestic circumstances, legal framework and public policies.

2.4. Summary

Different ways in the interpretation of the TK’s concept have emerged in both academic and political forums. Despite the diversity of approaches to definition of TK, they still show overlap in characteristics that underpin the ubiquitous nature of TK, including the collectivity, the oral and trans-generational transmission, and the association with traditional contexts involving customary rules and practices. TK under the scope of this study denotes knowledge in a narrower sense, so-called TK *stricto sensu*, in comparison with TK *lato sensu*. However, it encompasses an ambit broader than IK in order not to exclude holders other than indigenous people from protection.

TKaGRs is a specific type of TK reflecting knowledge on the properties or uses of biological resources, which is officially recognized under the framework of the CBD.

¹²⁶ *Supra* note 88.

¹²⁷ Wynberg, R. et al., *Bioprospecting, Access and Benefit Sharing: Revisiting the “Grand Bargain”*, in *INDIGENOUS PEOPLES, CONSENT AND BENEFIT SHARING: LESSONS FROM THE SAN-HOODIA CASE*, at 73 (Wynberg, R. et al. eds., Springer, 2009).

¹²⁸ Dutfield, G., *supra* note 48 at 3.

¹²⁹ Drahos, *supra* note 20 at 7.

Existence and evolvement of TKaGRs dates back a long history with its “footprints” left in various discoveries and innovations, thereby considerably contributing to socio-economic and technological development, as well as biological conservation. Nonetheless, the history of its development witnessed various ways and circumstances under which TKaGRs was illegally exploited by outsiders without consent of and compensation to the TKaGRs’ holders. Causes of the problem are often associated with the “public domain” – the concept having its roots in the IP system that inadvertently leaves TKaGRs freely available to non-owners.

In such an unjust circumstance, TKaGRs’ legal protection faces numerous obstacles due to its complex natures that hardly fit any conventional legal regime. The ABS initiative, as a regime under the auspice of the CBD, is regarded as a fair and equitable solution to curb misappropriation of TKaGRs, while still promoting its utilization on a wider scale by good-faith users. The mechanism is also presumed to attract interest from TKaGRs holders for the share of potential benefits resulting from the utilization of such TKaGRs. By the virtue of the CBD’s nature as a “framework agreement”, several supportive instruments under its auspice have been established with either binding or non-binding value, including the Bonn Guideline, the Akwé: Kon guideline and Nagoya Protocol. The efforts to achieve a feasible and equitable scheme at the global level was extended to other political forums, including negotiations under the WIPO IGC and the WTO TRIPS Council with a view to seeking harmony between the IP system – which has long been viewed as a vehicle for bio-piracy – with the ABS mechanism to ensure not to “run counter the CBD’s objectives”. However, despite a long-lasting period of negotiation with the involvement of states and other stakeholders, they still failed to reach any comprehensive and feasible solutions, except for recommended measures with non-binding value. A part of that failure would be attributed to the political North-South division in seeking solutions accommodating concerns and interests of both developing and developed countries. Actions from individual states, therefore, are presumed to be the prime mechanism to tackle the issue.

CHAPTER 3:

NATIONAL EXPERIENCES IN IMPLEMENTATION OF THE ABS REGIME RELATED TO TKaGRs

The last chapter dealt with the subject of TKaGRs and the emergence of the ABS mechanism as a global effort to rectify the injustice over unjust exploitation of TKaGRs. The chapter serves as the background to examine actual situations and implementation of TKaGRs related policies within the ABS context in TK-rich countries, including Vietnam. It was also clarified from the chapter that, international cooperation at issue has not come up with a global framework governing such a contentious matter. This is the starting point to investigate appropriate mechanisms taking place within individual countries to fix the issue.

In Chapter 3, discussions are extended to national experiences in the implementation of the ABS regime related to TKaGRs. Analysis in the chapter is premised on an assumption that by placing the subject matter within the cultural, political and legal contexts of each country, solutions from the domestic level would be the best suited to address the issue. The first part examines arrangements of the ABS mechanism in some selected countries, with the focus on its main components, namely scope of protection, access and benefit sharing. The second part centers on customary rules – a factor inexorably linked with the concept of TKaGRs – with the aim to explore how they are legally incorporated into the ABS framework and how to achieve the harmony between national laws and customary rules. In dealing with the question of legal recognition over TKaGRs, the last part provides an overview of TK registers, which were established by institutions, by NGOs, or by laws.

3.1. Selection of jurisdictions for the comparative study

In this context, eight countries are selected to figure out their approach to governing access and benefit sharing in relation to TKaGRs. China – a socialist country sharing the same social and political background with Vietnam, however, is not included in the list since it has still been in the process of drafting the legislation on the ABS related to TKaGRs. The selected countries – Brazil, France, Kenya, India, Malaysia, Peru, Philippines, and South Africa – represent diverse approaches taken before or after the adoption of the Nagoya Protocol. All selected countries are TK-rich countries with the intention to bring justice to TK's holders and promote broader application of TK in socio-economic and scientific spheres. Those countries' enacted legislations may put TKaGRs in frameworks generally governing TK or specifically regulate TKaGRs by separate legal arrangements.

Criteria for selection are set out in terms of diversity in types of TKaGRs under protection, diversity in requirements and procedures of ABS, diversity in incorporating the framework into the legal system and diversity in approaches to recognizing or identifying TKaGRs and its holders. These experiences may show either success or failure of the systems to figure out appropriate ways for protection of TKaGRs in the ABS context. To serve that objective, this chapter looks at how countries establish the scope of protection in relation to TKaGRs, how their laws and regulations establish access and benefit sharing requirements in relation to TKaGRs, and whether supportive measures are put into place to support the implementation of these requirements. Findings of this chapter are intended as the base to seek appropriate solutions for problems in Vietnam.

It should be borne in mind that not all selected countries follow the civil law tradition^{130 131} which defines the underlying nature of the Vietnamese legal system. Taking

¹³⁰ Generally, national legal systems in the world fall within one of two categories: civil law and common law. The civil law system uses codifications (constitution or statutes passed by the legislative body) as the primary source of law. Whereas, the common law system places utmost emphasis on judicial precedents (the decisions in cases by judges), which underlines the major difference with the

this issue into account, this dissertation does not intend to deal with case laws, but legal documents specific to the topic adopted in those countries. This approach is to ensure the comparability in the course of comparison, and to facilitate the finding of lessons for legal reform in Vietnam. Texts of relevant legislations of those countries are found either in their legal documents or through other reliable sources with clear specification in each specific case. (The list of used legal documents is included in the Annex I of this dissertation)

3.2. Access and benefit sharing mechanism

3.2.1. Scope of protection under the ABS regime

Given the diversity of TKaGRs and its complex nature, the scope of protection over TKaGRs varies substantially among countries. For those countries with obscure legal frameworks at issue, such as the Philippines, the scope of protection tends to cover all types of TKaGRs. In other words, the legal framework does not specifically designate any type of TKaGRs to be protected nor does it provide different treatments for different types of TKaGRs.¹³² It seems to convey a vague concept without any further clarification till date. By contrast, in the countries that developed specific frameworks governing the subject matter, the scope of protection is well-defined to accord legal safeguard to protectable

civil law system. For further information, see, e.g., Glenn, H. Patrick. *LEGAL TRADITIONS OF THE WORLD* (Oxford: Oxford University Press, 5th edn., 2014); Glendon, M. A, Paolo, G. C, & Colin B. P., *COMPARATIVE LEGAL TRADITIONS IN A NUTSHELL* (West Academic Publishing, 4th edn, 2015).

¹³¹ Among the selected countries, India follows the common law tradition and the system of the Philippines features as the mixture between the civil and common law systems.

¹³² See the Indigenous Peoples Right Act (1997) of the Philippines, with English version retrieved from the website of ECOLEX (an information service on environmental law, operated jointly by FAO, IUCN and UNEP), <https://www.ecolex.org/details/legislation/indigenous-peoples-rights-act-1997-republic-act-no-8371-of-1997-lex-faoc013930/> (Last visited August 10, 2019). The law contains a sole provision (Section 32) stipulating community intellectual property rights with connection to indigenous peoples' cultural traditions and customs. TK in general, TKaGRs in particular, is reflected through the concept of "cultural, intellectual, religious and spiritual property" without any further clarification.

TKaGRs and also to leave other objects out of the coverage of protection where deemed infeasible. In Peru, for example, protection under ABS rules is restricted to secret TKaGRs and does not apply to those in the public domain. However, benefit sharing is still required for knowledge that was transmitted into the public domain in the 20 years prior to the entry into force of ABS rules.¹³³ In Brazil, although no TKaGRs is explicitly put outside the scope of protection, the law categorizes TKaGRs into two groups: TKaGRs of identifiable or of non-identifiable origin, depending on whether its origin can be linked to at least one indigenous person, traditional community or traditional farmer. Accordingly, treatment of TKaGRs under ABS rules is differentiated in line with the nature of the origin of TKaGRs.¹³⁴ The Brazilian approach reflects the tendency to revisit the concept of public domain in the search for equitable solutions. Nonetheless, it is still unclear regarding the mechanism for enforceability of legal requirements applied to TKaGRs of non-identifiable origin.

3.2.2. Access

In all jurisdictions where laws and regulations on ABS were adopted, access to TKaGRs is subject to approval, notification or other requirements. In Brazil, for instance, regarding TKaGRs of identifiable origin, PIC is required from the provider of TKaGRs – the indigenous people, traditional community or traditional farmers who owns and provides TKaGRs related information for research or technological development. PIC is even required when access takes place through secondary sources such as publications, databases, etc. In cases of TKaGRs of non-identifiable origin, PIC is not a requirement, but access to

¹³³ See Art. 13 of the Law 27.811 introducing a Protection Regime for the Collective Knowledge of Indigenous Peoples derived from Biological resources (2002) of Peru, with English version retrieved from the website of WIPO, <https://www.wipo.int/edocs/lexdocs/laws/en/pe/pe011en.pdf> (Last visited August 10, 2019).

¹³⁴ See Art. 2 (ii, iii) of the Law 13.123 on Access to genetic Heritage and Associated Traditional Knowledge (2015) of Brazil, with English version retrieved from the website of the Ministry of Environment of Brazil, http://www.mma.gov.br/images/arquivo/80043/camara-setorial-academia/lei13123_english.pdf (Last visited August 10, 2019).

such TKaGRs must be registered in the National System for the Management of Genetic Heritage.¹³⁵ However, the system remains obscure as to the mechanism for monitoring compliance. In some other countries where only collective knowledge is legally safeguarded, such as Peru and the Philippines, PIC is granted through the representative organizations of the indigenous peoples possessing the collective knowledge. In Peru, upon the request for access (by application) of potential users, the representative organization of the indigenous people must inform “the greatest possible number” of indigenous peoples holding the knowledge in question.¹³⁶ This trend promotes equity and ensures that all members of the community are empowered to make decisions that impact their TKaGRs, though it was criticized for being unrealistic in some practical cases.¹³⁷ Similarly, in the Philippines, Indigenous Cultural Communities and Indigenous Peoples (ICCs/IPs) are entitled to grant Free and Prior Informed Consent (FPIC) for a range of activities affecting their knowledge system.¹³⁸ FPIC is defined as the consensus of all members of the ICCs/IPs, determined in accordance with their respective customary laws and practices.¹³⁹

In almost all adopted ABS mechanisms, the rules involve the role of competent authorities in the access stage. In most cases, competent authorities facilitate or supervise the PIC process to ensure full involvement of TKaGRs holders and transparency of information exchanged. South Africa is an example.¹⁴⁰ In some countries, competent authorities take more active roles in assisting involved parties. In France, for instance, local

¹³⁵ *Id.*, at Chapter III.

¹³⁶ *Supra* note 132, Art. 6.

¹³⁷ Susanna E. Clark, et al., *The protection of Traditional Knowledge in Peru: A comparative analysis*, 3 WASHINGTON UNIVERSITY GLOBAL STUDIES LAW REVIEW 3, 2004, at 781.

¹³⁸ *Supra* note 132, at Sect. 32.

¹³⁹ *Supra* note 132, at Sect. 8(g).

¹⁴⁰ Ministry of Environment, Forestry and Fisheries of Republic of South Africa, *National Environmental Management: Regulations on Bioprospecting and ABS* (2015), at 21-22, https://www.environment.gov.za/sites/default/files/legislations/bioprospecting_regulatory_framework_guideline.pdf.

authorities assume the responsibility for identifying and engaging members of local communities in consultation, and then documenting and communicating the outcomes of the discussion.¹⁴¹ In India, the competent authorities, through local biodiversity management committees, are charged with contacting and ensuring prior informed consent from TKaGRs holders.¹⁴²

Competent authorities may also themselves grant prior informed consent for access to TKaGRs. However, this is only done if the holders of the TKaGRs at issue cannot be identified, as is the case with Kenya¹⁴³ and Malaysia¹⁴⁴.

3.2.3. Benefit sharing

In accordance with the CBD and the Nagoya Protocol, benefit sharing is generally based on mutually agreed terms negotiated with the TKaGRs holders. Competent authorities may supervise or review benefit sharing to ensure fair and equitable agreements.

¹⁴¹ See Decree 848 on Access and benefit Sharing (2017) of France. In the absence of English version of this legal document, the author accessed related information from the website of the Union for Ethical BioTrade Secretariat, <https://static1.squarespace.com/static/58bfcaf22994ca36885f063e/t/5be0545d21c67cf1f97adc4d/1541428317962/UEBT-France-Factsheet.pdf> (Last visited August 10, 2019).

¹⁴² See Sect. 41(2) of the Biological Diversity Rules (2004) of India, with English version retrieved from the website of National Biodiversity Authority of India, <http://nbaindia.org/uploaded/Biodiversityindia/Legal/33.%20Biological%20Diversity%20Rules,%202004.pdf> (Last visited August 10, 2019).

¹⁴³ See Sect. 31 of the Protection of Traditional Knowledge and Cultural Expression Act (2016) of Kenya, with English version retrieved from the Website of The National Council for Law Reporting of Kenya, http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/ProtectionofTraditionalKnowledgeandCulturalExpressionsAct_No33of2016.pdf (Last visited August 10, 2019).

¹⁴⁴ See Art. 23(4b-ii) of the Access to Biological Resources and Benefit Sharing Act (2017) of Malaysia, with English version retrieved from the website of FAO, <http://extwprlegs1.fao.org/docs/pdf/mal176890.pdf> (Last visited August 10, 2019).

Most ABS rules require fair and equitable sharing of benefits resulting from access to TKaGRs. However, Brazil and Malaysia apply this approach with a little difference. Malaysia only requires benefit sharing in case of access to TKaGRs for commercial or potentially commercial purposes.¹⁴⁵ Brazil also links benefit sharing with the commercialization of a final product based on access to such knowledge.¹⁴⁶

In addition, some countries, such as Brazil and Peru, establish parameters for benefit sharing to be agreed upon for TKaGRs. In Peru, there are mandatory up-front payment and a percentage of no less than five percent of gross sales resulting from products directly or indirectly developed on the basis of TKaGRs.¹⁴⁷ In Brazil, monetary benefit-sharing should represent one percent of the annual net revenue obtained from economic exploitation of finished products or reproductive material.¹⁴⁸ Specific parameters represent clarity and equity in benefit sharing. Nonetheless, it may raise some obstacles or even deteriorate the sense of equity in some particular cases given the diversity of TKaGRs and its potential values, as well as diverse natures of industries utilizing TKaGRs. Considering this point, India does not set out any parameter for benefit sharing, but leaves it decided on the case by case basis.

Additional benefit sharing also exists in Brazil and Malaysia. This requirement is premised on the assumption of the collective nature of TKaGRs. Accordingly, it is required that a percentage of the benefit sharing must be paid into a fund and destined to TKaGRs holders or indigenous peoples and local communities more broadly.¹⁴⁹ In

¹⁴⁵ *Id.*, Art. 22.

¹⁴⁶ *Supra* note 134, at Art. 27.

¹⁴⁷ *Supra* note 133, at Art. 27 (c).

¹⁴⁸ *Supra* note 134, at Art. 20.

¹⁴⁹ *Supra* note 134, at Art. 25(1) and *supra* note 143, at Art. 23(5).

countries such as Brazil and India, these funds are also used for cases in which TKaGRs holders can not be identified.¹⁵⁰

The ABS, by its nature, promotes sharing and utilization of TKaGRs through the partnership established between the providers and the users, thereby contributing to sustainable development of TKaGRs in particular and GRs in general. Therefore, arrangements for benefit sharing also involve capacity building and contribution for sustainable conservation of TKaGRs and associated GRs. In this regard, in almost all jurisdictions where TKaGRs related frameworks were adopted, a certain part of benefit sharing is required for the well-being of TKaGRs holding community and sustainable conservation of related resources.

3.3. Incorporation of customary laws into the ABS mechanism

As discussed in the Chapter 2, customary laws and protocols are central to every aspect of life of indigenous peoples and local communities. As suggested in the WIPO draft articles on the protection of TK, customary laws may serve as a basis in establishing indigenous peoples and local communities' collective rights over TK; a mean to determine or guide the procedures of PIC in ABS rules; a guide for sharing of benefits resulting from the use of TK; a mean of determining remedies, sanctions or restitution applied for the breach of rights over TK or so on.¹⁵¹ The issue lies in how to recognize customary laws and to what extent they may take effect beyond the territorial jurisdiction of relevant indigenous peoples and local communities.

In domestic legal frameworks, incorporation of customary rules as conditions for access to and use of TKaGRs has become a common trend. In the Pacific Regional Model, for instance, ownership of TK is determined in accordance with customary laws and practices which serve as a fundamental basis for access and benefit sharing.

¹⁵⁰ *Supra* note 134, at Art. 25(4) and *supra* note 142, at Sect. 20(8).

¹⁵¹ See WIPO, *The Protection of Traditional Knowledge: Draft Articles - Facilitators' Rev. 2*, Doc. WIPO/GRTKF/IC/37/FACILITATORS TEXT TK REV. 2 (September 5, 2018).

According to the Indigenous Peoples Right Act (1997) of the Philippines, customary laws and practices act in place of official rules when someone seeks prior informed consent of traditional communities (Section 35) or when related disputes arise (Section 65). Similarly, in Peru, the Law 27.811 recognizes customary laws and protocols in the context of benefit-sharing, stating that “indigenous peoples (...) may have recourse to their traditional systems for the purposes of the distribution of benefits”. Some legal provisions, such as Article 2(2)(ii) of the African Model Legislation; Article 4 of the Law 13.123 of Brazil; Article 4 of the Peruvian Law 27.811, recognize customary practices as exceptions to *sui generis* rights so that the legal protection over TK does not inadvertently create barriers to exercising customary practices.

3.4. A supportive measure: registration systems of TKaGRs

Since ABS is regarded as a complex and trans-regime mechanism¹⁵², supportive measures, rather than solely ABS rules, are needed to advance the effectiveness of the ABS regime in ensuring the enforceability as well as strict compliance from involved actors. Among commonly used measures, TK register stands as a widespread and successful tool being implemented in many countries.

The idea of TK registration emerged as a response to the call for a holistic approach that may accommodate the unique nature of TK¹⁵³. TK registration, according to the group of researchers of the United Nations University (Japan), is “a list or database into which people put information in order to gain legal rights relating to that information”¹⁵⁴. Designed for TK protection, TK registration links the source community with the protected TK and aims to address both the cultural and property aspects of TK. The system may

¹⁵² See The Conference of the Parties of the Convention of Biological Diversity (CBD-COP), *Access and Benefit Sharing as Related to Genetic Resources (Article 15)* COP 7 De VII/19, CBDOR, 2004, Doc. UNEP/CBD/COP/DEC/VII/19, at 6 (para(b), Annex).

¹⁵³ United Nations University (Japan), *The Role of Registers and Databases in the Protection of TK – A Comparative Analysis*, UNU-IAS Report (2004), at 3.

¹⁵⁴ United Nations University (Japan), *ibid*, at 10.

directly accord rights to TK holders or simply recognize rights that already exist in customary norms and strengthen its application beyond the community's territory. Varying from country to country, the register system may serve to prevent the third parties from illegally appropriating TK (*defensive protection*), accord monopoly right over TK for its holders or act as “broker” to trigger ABS processes (*positive protection*). Although still under debate, this instrument has been taking place in various TK-rich-nations before an official mechanism is concluded worldwide.¹⁵⁵

Register systems may be derived from NGO initiatives, or established by governmental institutions (in cooperation with other organizations), or legally formed and enforced by national laws. Those systems exercise diverse functions, including, *inter alia*, recognition of TK's ownership, prevention of granting patent over TK, promotion and facilitation of ABS mechanism. Other functions, such as TK conservation or establishment of collective intellectual property rights over TK, will not be discussed since they fall outside the scope of this dissertation.

3.4.1. NGO initiatives: The Honey Bee Network¹⁵⁶

The Honey Bee Network was established based on an initiative of the Society for Research Initiatives for Sustainable Technologies (SRISTI) - an Indian non-governmental organization. Its operation involves a number of NGOs, collaborators and members, which include innovators, academics, scientists, researchers, students and homemakers from within and outside India.

The network aims at preventing abuse of grassroots innovations and TK by outsiders, stimulating innovation and promoting the authorized use of innovations and TK for local livelihood improvement. For those objectives to be achieved, the network

¹⁵⁵ See United Nations University (Japan), *ibid*, see also WIPO, *Documenting Traditional Knowledge – A Toolkit* (2017), available at <http://www.wipo.int/tk/en/resources/tkdocumentation.html> (Last visited on 26th, 2018).

¹⁵⁶ United Nations University (Japan), *The Role of Registers and Databases in the Protection of Traditional Knowledge – A Comparative Analysis* (UNU-IAS Report, 2004), at 21-22.

has been collecting and documenting grassroots innovations and TK through field trips and surveys. Information included in the Honey Bee database covers a wide range of local knowledge, such as conservation and use of biodiversity, agricultural and farm practices, livestock management practices, water management practices, herbal medicine and human health practices. The network functions as a broker to provide linkage among knowledge providers and innovators in the spirit of mutual help and cooperation; and ensure fair sharing of benefits among all stakeholders including communities.

The National Innovation Foundation (NIF) of India, a collaborator of the Honey Bee network, developed a PIC system to seek the consent of the innovators and TK holders for documenting TK. Under this PIC system, NIF can mediate and negotiate with potential entrepreneurs and investors on behalf of the innovators and TK holders. As a response to the TK holders' concern on the danger of placing TK into the public domain, confidentiality of the information is to be absolutely kept if TK holders indicate their wish to do so. The system is considered as a reaction to the lack of formal support for communities' TK.

Despite a certain success that has been made from the system, it is noteworthy that the system may be seen as a reaction to the lack of formal support for community and TK. Registration in the Honey Bee database does not lead to the award of a legal right, in both of defensive or positive protection. The system just functions to put public in notice the existence of TK and its holders and creates channels to facilitate ABS relations between users and providers. Nonetheless, the establishment and performance of the system, to a certain extent, accelerated the adoption of clause 36(5) under the Biological Diversity Act 2002 of India, which states that one of the methods to respect and protect the knowledge of local people relating to biological diversity is through registration of such knowledge at the local, state, or national levels. It gave rise to establishment of People Registers of Biodiversity involving both GRs and TKaGRs, which is guaranteed by legal safeguards.

3.4.2. Institutional initiatives: Traditional Knowledge Digital Library (TKDL)¹⁵⁷

While the Honey Bee Network operates with fairly broad objectives, the Traditional Knowledge Digital Library (TKDL) assumes a sole function: preventing wrongful patent developed based on TK. TKDL is a collaborative project between the National Institute of Science Communication and Information Resources (NISCAIR, erstwhile NISCOM) the Department of Indian System of Medicine and Homoeopathy (ISM&H), and the Ministry of Health and Family Welfare. The TKDL, which is based at NISCAIR, was created by an inter-disciplinary team of thirty Ayurveda experts, two patent examiners, five information technology experts, two NISCAIR scientists, and three technical officers.

TKDL was created based upon the codified traditional knowledge on Indian Systems of medicine. In the first phase of the project, information available in fourteen *Ayurvedic* texts listed in the Indian Drugs and Cosmetics Act of 1940 was compiled, translated in five common languages (English, German, French, Japanese and Spanish) and then transcribed in patent application format. After that, an innovative traditional knowledge resource classification system was developed, which was substantially based on the structure of the International Patent Classification (IPC) system.

At present, access of TKDL is available to nine International Patent Offices (European Patent Office, United State Patent & Trademark Office, Japan Patent Office, United Kingdom Patent Office, Canadian Intellectual Property Office, German Patent Office, Intellectual Property Australia, Indian Patent Office, and Chile Patent Office), under TKDL Access (Non-disclosure) Agreement. Accordingly, examiners of patent offices can use TKDL for prior art searching and must not disclose the contents of TKDL to any third party.

¹⁵⁷ Information retrieved from the official website of the Council of Scientific and Industrial Research under the Ministry of Science and Technology of India <https://www.csir.res.in/documents/tkdl> (Last visited on August 10, 2019).

In practice, TKDL has proven to be an effective tool to fight against bio-piracy. Although it does not primarily function to curb the misuse of TK, its operation actively prevents acts of misappropriation of TK by patent applicants. However, it should be noted that, this model was designed for a single purpose of preventing misappropriation by patent and was not intended to curb any other ways of misappropriation.

3.4.3. Legal initiatives: Local and national TK register in Peru¹⁵⁸

Registers under the Law 27811 of Peru serve different purposes: preserving indigenous peoples' collective knowledge; providing defensive protection against patents and control of access to collective knowledge (Art. 16). Accordingly, the law designs three types of registers of collective knowledge.

The first type is the Public National Register, developed and organized by the national intellectual property office (Art. 17). The register contains information and data of collective knowledge already in the public domain, which is systemized and used as a tool to identify patent applications that may be developed based on such knowledge. The second type is the Confidential National Register, also managed by the national intellectual property office. Its aim is to protect TK that the holders prefer to keep confidential and therefore inaccessible to third parties (Art. 18). The third is the Local Register, established by local initiatives based on their customary laws and practices (Art. 24). This type of register provides flexibility for TK holders to establish their own mechanism in order to restrict or allow access by third parties.

In this model of register system, legal safeguard is provided in both defensive and positive protection perspective. While defensive protection is guaranteed by the national patent office, positive protection actively takes place by local initiatives and for the benefit of indigenous people themselves.

¹⁵⁸ Law 27.811 introducing a Protection Regime for the Collective Knowledge of Indigenous Peoples derived from Biological resources (2002) of Peru.

3.5. Lessons learned from the comparative study

The review of the selected countries' experiences firstly indicates various ways to define TKaGRs under the scope of protection. In some jurisdictions, TK (or TKaGRs specifically) is defined broadly, even so broadly that no definition is provided, implying all deemed TK is qualified for legal protection. By contrast, other countries well define and carefully categorize TK (or TKaGRs specifically) into distinct groups to facilitate corresponding procedures for protection or access and benefit sharing. It goes without a doubt that the more the scope of protection is clarified, the more feasibly the enforcement of rights is achieved. Following experiences from the reviewed countries, the clarity in this sense can be attained through clarification of criteria for protected TKaGRs, including the secret or disseminated nature, the linkage of TKaGRs with indigenous peoples or local communities in order to trace its origin, and the extent to which TKaGRs passed into the public domain. Besides, the review found Brazil as a pioneer in placing disseminated knowledge under the scope of protection to reinforce the sense of equity for its holders, though the feasibility of this approach has not been confirmed in practice.

Regarding requirements of access and benefit sharing, all countries adopted PIC as mandatory for related ABS mechanism. PIC is often required for direct access to TKaGRs through its holders. An exception is found in Brazil where even indirect access through secondary source requires PIC, although its monitoring mechanism has yet to be proved effective. Brazil also takes a novel approach in creating a conclusive assumption that the knowledge is deemed accessed if there is an acknowledgement of its existence related to properties or uses of biological resources being used in R&D activities – even if the knowledge has not been used in these activities. This approach may pave the way to resolve the intrinsic interrelation between GRs and associated TKaGRs.

Another point deserved attention is the way to authorize PIC in cases that TKaGRs is collectively owned or unidentifiable. In those circumstances, official

recognition of collective entities representing knowledge holders in ABS relations generally, or PIC particularly, is of great significance. The model of ICCs/IPs in the Philippines provides an example. Additionally, in the case of TKaGRs with non-identifiable origin, it is often competent state bodies which represent holders to grant PIC, as prescribed in Kenya or Malaysia.

In respect of benefit sharing, virtually no criteria have been made to determine the “fair and equitable” factor. However, some countries proved their efforts in “quantifying” this factor by setting up parameters for benefit sharing, as in Peru and Brazil. This approach may increase clarity and certainty, but another concern may also be raised regarding the difference in added value of TKaGRs in each industry or each type of research. In this situation, determination on the case by case basis is a preferable option, as in India. Benefit sharing primarily accrues to TKaGRs’s holders, but in some cases a certain amount therein is necessarily set aside for a fund dedicated to the welfare of indigenous peoples and local communities in a broader sense, as an experience of Brazil. This approach stands on the acknowledgement of TKaGRs’ collective nature, thanks to which the issue associated with multiple shared TKaGRs can be resolved.

In the view of recognition of customary laws, national experiences show their ways to integrate customary laws into the official system. Accordingly, in the Philippines, for example, customary laws are deemed official rules to deal with relevant ABS procedures. Similarly, in jurisdictions where *sui generis* rights of indigenous people were legally established, customary laws still prevail as exceptions to deal with distinct matters within their territory. The above ways provide a reference for empowering customary laws within the national legal system.

Regarding supportive measures for the ABS mechanism, TKaGRs register represents the most popular instrument to reach diverse purposes, including promoting ABS. Lessons from the reviewed models bring two options: register for defensive or positive protection. If serving defensive protection (TKDL-India), register is in essence

a process of fixation of TKaGRs in languages accessible to patent offices with a view to preventing the grant of wrongful patents. It should be noted, however, the type of misappropriation as the object which this mechanism tries to fight against is restricted to the act of acquisition of TKaGRs through patent. As to positive protection (the Honey Bee network, for instance), a register may act as an instrument to recognize or declare ownership over TKaGRs, by which to protect such TKaGRs or inviting access from potential TKaGRs users based on conditions set forth in customary rules. Depending on the availability of legal arrangements, involvement and initiatives of NGOs and local communities, a register may be established at local, regional or national levels, by institutions, NGOs or the state.

In brief, based on the national context and its priorities, each reviewed country shows its own way to cope with different aspects of the ABS mechanism related to TKaGRs. Each approach has its advantages and disadvantages and responds to distinct situations defining matters that must be solved. Therefore, lessons learned are useful only if the domestic issues and priorities are clearly defined for which applicable experiences can be sought to use.

3.6. Summary

The chapter shows a wide range of approaches adopted by countries to address TKaGRs related matters arising in the ABS context. As provided in the chapter, the scope of protection varies extensively among countries depending on the specific or abstract nature of governing frameworks over TKaGRs and the enforceability of protection schemes. In the stage of access to TKaGRs, PIC is a primary condition that may be obtained directly from TKaGRs holders, through representations of communities, or from authorities acting on the behalf of TKaGRs holders. Benefit sharing, decided through negotiation between involved parties, may be determined on the case by case basis, although some fixed parameters for benefit sharing and mandatory payments for collective funds are required in some jurisdictions. Experiences from some selected countries also demonstrate the active involvement of authorities in each stage of ABS.

The incorporation of customary rules into the ABS rules is another point of note in this chapter. Accordingly, customary rules, anchored in the right to self-determination of indigenous peoples and local communities, may exert binding effect to third parties in determining ownership over TKaGRs and conditions of access and benefit sharing. Finally, in extending the discussion to the registration system over TKaGRs, the chapter finds that, registration systems, which have been established by institutions, NGOs, or laws, may actively assist TKaGRs holders to assert rights over their TKaGRs, and act as a supportive measure for the ABS mechanism by identifying TKaGRs holders and promoting access and utilization of TKaGRs in good faith. It should be noted, however, that each system has its own pros and cons, and is intended to solve several specific aspects of TKaGRs, therefore cannot accommodate all matters involved in TKaGRs protection.

CHAPTER 4:

APPROACH TO IMPLEMENTATION OF THE ABS REGIME REGARDING TKaGRs IN VIETNAM: THE BACKGROUND

After decades since the emergence of the ABS regime, efforts have still been made by countries to come up with an appropriate mechanism for the protection of TKaGRs. Chapter 3 showed diverse approaches adopted by countries, which were framed in different socio-political and legal contexts. Analysis in Chapter 3 was based on the theoretical background provided in the Chapter 2, thereby allowing the pros and cons of each approach to be assessed. It was demonstrated from international experiences that, to deal with the multi-dimensional nature of TKaGRs as well as its dynamic evolvement, a flexible approach should be adopted. Furthermore, it was also noteworthy that, no mechanism could perfectly respond to every aspect of TKaGRs in its ABS context, therefore priorities should be given to TKaGRs – related issues corresponding to the socio-political and legal background, and the technological capacity as well, of each individual country.

On the basis of the assessment of international experiences, the national approach is to be examined to figure out its achievements and gaps. Accordingly, this chapter places the center of discussion on the Vietnamese approach towards TKaGRs protection in the context of ABS. It starts out with a review of TKaGRs and ABS practices in Vietnam, which serves as a background to examine the practical needs for a governing legal framework.

Vietnam is well-known for its mega-diversity. The wealth of biodiversity corresponds to the abundance of associated traditional knowledge, which give rise to demands of access to and use of such knowledge in practice. This chapter commences with an overview of TKaGRs by clarifying the related concepts,

investigating TKaGRs' potentials, as well as threats of loss. It is then followed by an examination of ABS practices, in both traditional and modern ways.

4.1. Approach to relevant concepts in the Vietnamese context

4.1.1. TKaGRs and related concepts

Though traditional knowledge (*tri thức truyền thống* in Vietnamese)¹⁵⁹ has long been an object of wide discussions in both academic and political forums, scarcely has this term appeared officially in Vietnamese legal documents. Instead, it is often integrated into the term “traditional cultural identity (*bản sắc văn hóa truyền thống*)” that combines all together tradition related factors constituting and underpinning the identity of an ethnic group. Exceptions may be found in a limited number of legal documents, including the Law on Cultural Heritage where “folk knowledge” – an interchangeable term of “traditional knowledge” appears.¹⁶⁰ However, it is worth noting that “folk knowledge” is not treated specifically under this legal document, but presents as a subset of “intangible cultural heritage”. Biodiversity Law of 2008 provides another exception with an introduction of the term “traditional knowledge associated with genetic resources (*tri thức truyền thống gắn với nguồn gen*)” which is literally translated from the original wordings of the term in the CBD and the Nagoya Protocol. Accordingly, TKaGRs is defined as “knowledge, experience and initiatives of native people on the conservation and use of genetic resources”.¹⁶¹ Comparing with the definition provided by the CBD, this definition is

¹⁵⁹ In daily speech or in literature of Vietnamese people, traditional knowledge (*tri thức truyền thống*), indigenous knowledge (*tri thức bản địa*), or folk knowledge (*tri thức dân gian*), *inter alia*, are terms often used interchangeably to denote the same meaning.

¹⁶⁰ According to Article 4(1) of the Law on Cultural Heritage, “intangible cultural heritages are spiritual products of historical, cultural or scientific value, being saved in memory or in scripts, handed down orally and through professional teaching, performance and other forms of saving and handing down, including speech, scripts, literary, art or scientific works, oral philology, folk oratorio, life style, way of life, rites, traditional craft know-hows, knowledge about traditional medicine and pharmacy, about gastronomic culture, about traditional costumes, and other *folk knowledge*.” (Emphasis added).

¹⁶¹ Art.3(28) of the Biodiversity Law.

somewhat broader, illustrated by the only two identifiable factors, namely the origin from “native people” and the association with “the conservation and use of genetic resources”. Á such, it excludes one critical factor as “embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity” appearing in Article 8(j) of the CBD.

TKaGRs is sourced from its creators, most of whom are ethnic minorities who inhabit midland and mountainous areas with high genetic diversity. Interpreted from the social, political and legal contexts of Vietnam, the term “ethnic minority” (the closest literal translation of the term “*dân tộc thiểu số*” as formally adopted in Vietnam) is intended to be used instead of “indigenous people”. This use of the term avoids sensitively political implication derived from the term “indigenous people”, demonstrating a part of the effort to convey the non-discrimination policy on the basis of ethnicity, and signifying the unity of the nation.¹⁶² Ethnic minorities, according to Decree 05/2011/ ND-CP of the Government dated 14 January 2011, are less populous ethnic groups in comparison with majority ethnic groups in the territory of the Socialist Republic of Vietnam.¹⁶³ For the sake of a better understanding of relevant concepts under the Vietnamese context, further clarification of the term “ethnic minority” should be provided. Vietnam has fifty-four (54) ethnic groups, of which fifty-three (53) are ethnic minorities. The King is the largest and the only majority group, accounting for 87% of the population. This group mainly resides in the Red River delta, the central coastal delta, the Mekong delta and major cities. The remaining are ethnic minority groups, mostly inhabiting mountain areas from the North to the South of the

¹⁶² Regarding the political stand of the Vietnamese Government regarding ethnic minority related matters, see <http://tuyengiao.vn/tuyen-truyen/o-nuoc-chxhcn-viet-nam-khong-ton-tai-quyen-cua-nguoi-ban-dia-1993> , and <http://chinhphu.vn/portal/page/portal/English/TheSocialistRepublicOfVietnam/AboutVietnam/AboutVietnamDetail?categoryId=10000103&articleId=10000475> (Last visited on December 20, 2019).

¹⁶³ Art. 4(3) of Decree 05/2011/ ND-CP dated 14 January 2011 of the Government on ethnic minority related tasks.

Vietnamese territory.¹⁶⁴ In Vietnam, territorial autonomy, including that related to ethnic groups, does not exist.¹⁶⁵ This fact is intertwined with the migration movement among ethnic groups throughout history giving rise to the emergence of multi-ethnic society. In the other words, population of the same ethnic group does not concentrate in a specific geographical area but mixes with other ethnic groups, making a multi-ethnic residential areas, or even multi-ethnic families (through inter-ethnic marriage).¹⁶⁶ Studies show that, despite the intermingling of multi-ethnic inhabitants, each ethnic group still retains its own cultural identities, customs, beliefs, and languages.¹⁶⁷ On that account, one geographical area may be home to a number of ethnic groups with a diversity of cultures.

Besides, since TKaGRs is presumably collective in nature, the concept of "community" or "residential community" is also associated with the formation, use and evolvement of TKaGRs. The term "community (*cộng đồng*)" has been widely used in various legal documents, including the Land Law of 2013, the Forestry Law of 2018, the Law on Environmental Protection of 2014, the Law on Water Resource of 2012, amongst others. "Residential community", under the Forestry Law, "includes Vietnamese communities living in the same village, hamlet, or other similar residential areas and having the same customs and habits."¹⁶⁸ The Land Law also provides the same approach to deal with the concept of community, but adds one more identifiable factor as "or having the

¹⁶⁴ Information retrieved in the official website of the Vietnamese Government, <http://www.chinhphu.vn/portal/page/portal/English/TheSocialistRepublicOfVietnam/AboutVietnam/AboutVietnamDetail?categoryId=10000103&articleId=10002652> (Last visited on December 20, 2019).

¹⁶⁵ Under the Constitution of 2013, Law on Organization of the Government of 2015 (as amended in 2019), Law on Organization of Local Governments of 2015 (as amended in 2019), no legal provisions on territorial autonomy exist.

¹⁶⁶ Ngo Van Le et al., *INDIGENOUS KNOWLEDGE OF ETHNIC MINORITY GROUPS IN THE SOUTH EAST AREA IN THE DEVELOPMENTAL PROCESS OF VIETNAM* [Tri thức bản địa của các tộc người thiểu số ở Đông Nam Bộ trong tiến trình phát triển xã hội ở Việt Nam] (National Political Publishing House [Nhà xuất bản Chính trị quốc gia Sự thật], 2018), at 60.

¹⁶⁷ *Id.*, at 62

¹⁶⁸ Art. 2(24) of the Forestry Law.

same family line".¹⁶⁹ Accordingly, "community" is recognizable on the basis of territorial and socio-cultural factors, such as customs, habits and family lines. However, it is further noteworthy that, despite the existence of "communities" in relevant legal documents as illustrated, the Civil Code of 2015 does not recognize community as a legal entity,¹⁷⁰ amounting to excluding this *de facto* entity from civil transactions, liability or disputes that actually have its involvement.

4.1.2. Ownership over TKaGRs and associated GRs

Another point of note is the correlation in the term of ownership over GRs and TKaGRs. In most countries as members of the Nagoya Protocol, indigenous peoples and local communities establish ownership over their land, which concurrently assumes proprietary rights over GRs and TKaGRs within the land domain. However, in Vietnam, GRs and TKaGRs are two separate elements in the perspective of ownership. While TKaGRs – an intangible element inseparably associated with GRs – traces its origin from ethnic minority individuals/ groups, those individuals/ groups in fact do not always take control over GRs.

Vietnam – a socialist country - is unique in that it maintains the entire-people ownership regime over natural resources, including GRs, in which the State acts as the

¹⁶⁹ According to Art. 5(3) of the Land Law, "Communities, including Vietnamese communities, are those residing in the same village, street quarter or similar residential area, sharing the same customs and practices or *the same family line*." (Emphasis added).

¹⁷⁰ In defining non-commercial juridical person as legal entity under the governing scope of the Civil Code, Art. 76 provides a list comprising regulatory agencies, military units, political, social and professional organizations, social and charitable funds, social enterprises and other non-commercial organizations. Accordingly, community, which is not included in the list, cannot act as an independent entity in every civil relation.

representative of such right.¹⁷¹ Accordingly, the State allocates land,¹⁷² forest¹⁷³ and accords the right to manage GRs¹⁷⁴ to individuals, households, communities and

¹⁷¹ See Art. 53 of the Constitution of Vietnam, which states: “The land, water resources, mineral resources, resources in the sea and airspace, other natural resources and property invested and managed by the State are public properties, coming *under ownership of the entire people represented and uniformly managed by the State.*” (emphasis added).

¹⁷² Art. 13 of the Land Law states that the State shall exercise the following rights as the representative of the land owner:

1. To decide on land use master plans and plans.
2. To decide on land use purposes.
3. To prescribe land use quotas and land use terms.
4. To decide on land recovery and land requisition.
5. To decide on land prices.
6. To decide on grant of land use rights to land users.
7. To decide on financial policies on land.
8. To prescribe the rights and obligations of land users.

¹⁷³ Regarding rules for forest allocation, “Forest allocation, lease, repurposing and appropriation shall be in compliance with the national forestry planning, land use planning and forest area of provinces.” (Art. 14(1) – Forestry Law) and “Forest allocation or lease terms and limits shall be consistent with land allocation or lease terms and limits.” (Art. 14(6) – Forestry Law). As such, rules for land allocation with primary authority of the State actor is applicable to forest allocation.

¹⁷⁴ According to Art. 55 of the Biodiversity Law, the State uniformly manages all genetic resources in the Vietnamese territory. It assigns organizations and individuals to manage genetic resources following the rules as follows:

- a/ Conservation zone management units and organizations assigned to manage conservation zones shall manage genetic resources in conservation zones;
- b/ Heads of biodiversity conservation facilities, scientific research and technological development institutions, and genetic resource storage and preservation establishments shall manage their own genetic resources;
- c/ Organizations, households and individuals assigned to manage or use land, forests or water surface shall manage genetic resources assigned to them for management or use;

organizations based on national master plans, preferential policies, actual demands of resource users and other criteria determined in specific situations. Interpreting those legal provisions all together, it inferred that individuals or communities as holders of TKaGRs may physically hold and manage associated GRs only if they are accorded with the use rights over land, forest or water surface where GRs are found.

Rooted in the spirit of national unity, the Vietnamese political system does not uphold the concept of “ethnic territorial autonomy” as previously discussed. Resultantly, despite the existence of customary rule systems governing relations associated with land and other resources within ethnic communities, the authority to allocate or recover land and other resources in relation to ethnic minorities is absolutely vested in the State based on the formal legal system. As a country adhering to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)¹⁷⁵, Vietnam has demonstrated its respect to ethnic minorities’ rights through plenty of preferential policies, including those related to land and resources associated with ethnic minorities’ livelihood, cultures and beliefs.¹⁷⁶ However,

d/ Commune-level People’s Committees shall manage genetic resources in their localities, except cases specified at Points a, b and c.

As such, individuals or communities as holders of TKaGRs may physically hold and manage associated GRs if they are accorded with the use rights over land, forest or water surface where GRs are found.

¹⁷⁵ Article 27 of the UNDRIP reads: “States shall establish and implement, in conjunction with indigenous peoples concerned, a fair, independent, impartial, open and transparent process, *giving due recognition to indigenous peoples’ laws, traditions, customs and land tenure systems, to recognize and adjudicate the rights of indigenous peoples pertaining to their lands, territories and resources, including those which were traditionally owned or otherwise occupied or used.* Indigenous peoples shall have the right to participate in this process.” (emphasis added).

¹⁷⁶ Taking the Land Law, among others, as evidence, Article 5 of the 2013 Land Law prescribes land allocations to “Vietnamese communities”. Article 27 also affirms state responsibilities for adopting policies “on residential land and land for community activities for ethnic minorities in conformity with their customs, practices and cultural identities and the practical conditions of each region”, and for providing ethnic minorities with land for agricultural production. Article 100 allows for state allocation of land use right certificates over agricultural land to communities. One of the priorities (or purposes) of land allocation to communities is “to preserve national identities associated with the traditions and

given various constraints, including the conflicting demands on limited land for which priorities sometimes are given to economic development,¹⁷⁷ it is not always the case with legal guarantee over the rights associated with land, forest and other resources of ethnic minorities. Therefore, TKaGRs holders may not always be the holders of land use rights that define the right to manage GRs to which such knowledge is linked.

4.2. Overview of TKaGRs in Vietnam

4.2.1. Potential and value

Located in the eastern part of the Indochinese Peninsula, in the tropical northern hemisphere with a diversity of topography, landforms, landscapes and climate, Vietnam is considered one of the most biodiverse countries in the world. It is home to about 10% of the world's species although its geographical area accounts for less than 1 % of the world surface. Viet Nam hosts a diversity of marine, coastal, wetlands, forests and mountain ecosystems. In the country's terrestrial ecosystems there are more than 11,400 plant species and 2,400 species of non-vascular plants (mosses and fungus), 310 species of mammals, 840 species of birds, 296 species of reptiles, 162 species of amphibians, 1,000 species of freshwater fish, and 7,750 species of insects. The tropical marine ecosystem is also home to more than 11,000 sea creatures that include 2,500 species of fish, 21 species of reptiles, 25 species of mammals, 650 species of algae and over 7,000 species of non-skeletal fauna. Viet Nam's biodiversity is relatively unique as over 40% of the local plant species are endemic and believed to be found nowhere else in the world.¹⁷⁸ Such mega-diversity of

customs of the people" (Article 131). Article 136 regulates allocation of protection forest to communities. In addition, communities assume the responsibility for managing land in accordance with "cultural-historical relics" (Article 158), and religious practices (Article 160).

¹⁷⁷ See Ironside, J., *RECOGNITION OF CUSTOMARY TENURE IN VIETNAM* (Mekong Region Land Governance, 2017), at 23. See also To, X. P. & Tran, H. N., *ALLOCATION OF LAND AND FOREST IN THE CONTEXT OF RESTRUCTURING FORESTRY SECTOR: THE CHANCE FOR FOREST DEVELOPMENT AND IMPROVEMENT OF LIVELIHOOD IN HIGHLAND* (Tropenbos International Viet Nam, 2015).

¹⁷⁸ See MONRE, *The Fourth Country Report to CBD* (2008), <https://www.cbd.int/doc/world/vn/vn-nr-04-en.pdf> (Last visited August 10, 2019).

GRs is associated with the wealth of TKaGRs. According to the focus of know-how and skills, TKaGRs can be categorized into four following groups:

Group 1 - TKaGRs on conservation and management of natural resources. This group of knowledge shows experiences, initiatives and practices of local peoples in management and protection of forests, drainage and living water resources, animal and plant genetic resources associated with local people's lives and subsistence.

Group 2 - TKaGRs on agro-forestry production. This group of knowledge includes experiences, initiatives and practices of local peoples on grasping natural principles of climate, soil, growing characteristics of plant varieties for cultivation; methods of farming and husbandry; methods of exploiting and using plants, animals for food; breeding and domesticating precious and endemic plants and animals...

Group 3 – TKaGRs on traditional crafts. This group of knowledge includes experiences, initiatives and practices of local peoples in using biological resources to make traditional handicraft products, such as making brocade weaving from flax fiber; pillows and mattresses from *bong lau* plant (*Saccharum Arundinaceum* Retz).

Group 4 – TKaGRs on traditional knowledge on medication, nutrition and human health care. This group of knowledge reflects experiences, initiatives and practices of local peoples in using biological resources for medical treatment and health care.

Living in harmony with the nature, ethnic groups in Vietnam through generations have accumulated and developed experiences and initiatives on the conservation and use of genetic resources to adapt to natural conditions and serve the needs of life and development. TKaGRs, as an intellectual product of ethnic groups, embodies an essential element of communities' sustainable livelihoods, and has tremendously contributed to the society at large in all ecological, socio-economic and scientific perspectives.

Within the local setting, TKaGRs plays an active function in improving livelihoods of ethnic minorities and local communities. In the traditionally self-sufficient model, TKaGRs takes its dominant roles in every aspect of life. It may be illustrated by various

well-known local experiences, such as roofing of *Rong* houses from grass (in the Central Highland), weaving from flax (in Ha Giang province), using medicinal plants as medicines (in almost all ethnic minorities in mountainous areas). In recent decades, fostered by the demand of the market-oriented economy, communities have been taking advantage of TKaGRs to bring products, such as *Seng Cu* rice, *Bo khai* vegetables, *Sang* vegetables and *H'Mong* cucumbers, to the market. Besides, utilizing TKaGRs in developing the model of farming and tourism has become a popular trend.¹⁷⁹

For the society at large, the contribution of TKaGRs to conservation and sustainable development of natural resources, especially genetic resources, is an undeniable fact. TK on forest protection of ethnic minorities in mountainous areas of Vietnam, among others, serves as an evidence for ecological value of TKaGRs.¹⁸⁰ Additionally, TKaGRs also makes a considerable contribution to the richness of GRs, exemplified by numerous rare and endemic gene resources conserved and developed by ethnic and local communities, such as *H'mong* pigs, *Tap na* pigs, *Te* chickens, white horses, six-fingered chickens, *Dom* duck ...

Finally, but not less important, an increasing number of modern products bearing TKaGRs' footprints proves an essential part of TKaGRs in modern sciences and developmental activities. Examples may be found in various cases, such as *Ampelop* - for treatment of stomachache - developed from medicinal properties of *Che day* plant - traditionally used by the *Tay* ethnic minority in Cao Bang province; *Berberine Chloride* –

¹⁷⁹ Oxfam. Report *Models of poverty reduction in some selected ethnic minority communities in Vietnam: Case studies in Ha Giang, Nghe An and Dac Nong Province* within the project “Participatory Poverty Monitoring” implemented by AAV và Oxfam from 2007 to 2013, http://www.actionaid.org/sites/files/actionaid/mo_hinh_giam_ngheo_tai_mot_so_cong_dong_dan_toc_t_hieu_so_dien_hinh_o_viet_nam.pdf. (Last visited August 10, 2019).

¹⁸⁰ See Cultural Identity and Resource Use Management (CIRUM). Report *Roles of Local Customs in Management and Conservation of Forest and Water Resources*, February 2011, <http://cirum.org/vn/documents/127-vai-tro-cua-luat-tuc-va-tap-quan-trong-quan-ly-su-dung-tai-nguyen-rung-va-nuoc.html> (Last visited August 10, 2019).

for treatment of intestinal diseases - extracted from *Vang dang* plants of *Ba Na* ethnic minorities in the Central Highland.¹⁸¹

4.2.2. Threats of loss

Since the last few decades, TKaGRs has been facing the danger of getting loss, which may be attributed to different reasons, including:

- The introduction of modern science and technology leads to changes in lifestyles, farming practices, animal husbandry, health care options of ethnic minorities and local communities.

- Endemic genetic resources face degradation due to illegal exploitation and trade, mismanagement of genetic resources, uncontrolled-exploitation by a part of ethnic minorities in response to the needs of livelihoods, etc. When the genetic resources associated with TKaGRs are no longer available, TKaGRs resultantly disappears.

- Some secrete TKaGRs faces very high risk of getting loss due to its restricted transmission. Moreover, in modern society, young generations are less interested in TKaGRs, therefore not everyone maintains secrete TKaGRs of his/her family.

- Policies on land and forest allocation have a great impact on this matter. In fact, not all TKaGRs holding communities are assigned forest or land use rights with which the right to manage genetic resources is associated. Furthermore, under the impacts of the market economy, land and forests under the use of communities may be recovered to serve

¹⁸¹ Vu, V. H. et al., *Traditional Knowledge on Healthcare in Communities —from the Perspective of the Policy on Management, Utilization and Conservation [Tri thức truyền thống/bản địa về chăm sóc sức khỏe tại cộng đồng —Góc nhìn từ chính sách quản lý sử dụng, ứng dụng và bảo tồn]*, paper presented at the Workshop “Policy Consultation for Conservation and Utilization of Traditional Medical Knowledge in Healthcare” [Tham vấn xác định chính sách nhằm bảo tồn và ứng dụng tri thức truyền thống, nguồn gen dược liệu của Việt Nam trong chăm sóc sức khỏe], held on June 9, 2018 in Hoa Binh province, Vietnam.

development projects, resulting in loss of control over genetic resources associated with TKaGRs

- Lack of appropriate legal mechanism for protection is also a cause leading to the loss of TKaGRs. Since the rights and interests of TKaGRs holders have not been guaranteed by a sufficient legal framework, holders have no motivation to preserve and share their TKaGRs.

4.3. ABS practices

This section is devoted to the discussion on how TKaGRs is put in ABS practices by stakeholders. Access and benefit sharing within the local setting takes place in both traditional and modern ways. The “traditional ABS” – as the term used by the author – defines the modes of declaring ownership as well as the manners to transmit, share and protect TKaGRs, which is substantially enforced by customary rules. Whereas, modern ABS features itself by research and development activities following the access of users. The latter form of ABS represents the subject matter governed under the framework of the CBD, and serves as the core of research within the scope of this study. Nonetheless, traditional ABS, as a social and traditional background for every ABS transaction, should not be underestimated.

4.3.1. Traditional ABS

4.3.1.1. Types of TKaGRs and traditional approach to ownership

In Vietnam, TKaGRs may be held by different types of holders. The diversity of TKaGRs holders depends on the “secrecy” or “publicity” of TKaGRs.

As for secret TKaGRs, the holders may be individuals, group of individuals, families or family lines.

Traditional medical knowledge is a typical group of TKaGRs that still maintains a large proportion of secret knowledge. Secrete medical prescriptions have often been passed on within families or family lines. The principle of "heredity" in transferring knowledge has

been recorded by various literature sources.¹⁸² Exceptionally, there are some medicinal prescriptions possessed by an individual whose family has no one else to inherit such knowledge.¹⁸³

There are limited sources of information on the existence of secret TKaGRs held collectively by community. According to Ass. Prof. Nguyen Van Tap, in some ethnic minority communities in Vietnam, it is the woman who holds the secret herbal remedies related to childbirth or female related diseases, which are, by customs, passed on to daughters or daughters-in-law by the mother, or to nieces by the grandmother. Dr. Bui Van Thanh also added to this assertion through the experience of birth control medication held by women in the Van Kieu community in Quang Binh and Quang Tri provinces. That knowledge is kept absolutely secret in the community and holders are not allowed to transmit it to outsiders.¹⁸⁴

Notwithstanding the diversity of TKaGRs holders, experts with experiences in field collection opined that, to a large extent, the boundary between collective and individual knowledge is somewhat blurred. Generally, individual knowledge traces its origin from collective knowledge that had been maintained, and to some extent modified or developed,

¹⁸² See Ngo, V. L., *supra* note 166 at 227; See also Mai, V. T., FOLK KNOWLEDGE IN USES AND MANAGEMENT OVER NATURAL RESOURCES OF THE MUONG ETHNIC MINORITY IN THANH HOA [Tri thức dân gian trong sử dụng và quản lý nguồn tài nguyên thiên nhiên của người Mường ở Thanh Hóa] at 285 (Hanoi National University Publishing House [Nhà xuất bản Đại học Quốc gia Hà nội], 2015).

¹⁸³ See Nguyen, T. T. V., *Research on knowledge of M'ong ethnic community on using herbs in health care* [Tìm hiểu tri thức sử dụng cây cỏ trong chăm sóc sức khỏe của cộng đồng người M'ong], 4 (23) JOURNAL OF THU DAU MOT UNIVERSITY [Tập chí Đại học Thủ Dầu một] 56, at 56 (2015)

¹⁸⁴ Information from the interview with Dr. Bui Van Thanh, Institute of Ecology and Biological Resources, in Hanoi (October 3, 2018) and Ass. Prof. Nguyen Van Tap, Former researcher of the Institute of Medicinal Plants, in Hanoi (September 22, 2018).

by only a few of individuals and families within the community before being declared as individual or family's assets.¹⁸⁵

As for disseminated TKaGRs, holders are community, a group of communities or unidentifiable entities.

Apart from secret TKaGRs, disclosed knowledge is greatly popular in Vietnam. Disclosure of such knowledge may be attributed to different reasons. Firstly, there may be the case that knowledge is not necessarily kept secret and needs to be spread to others within or even outside the community. The second reason giving rise to the disclosure of knowledge is leakage of secrecy resulting in publicity of information. Thirdly, knowledge may be documented or otherwise published under various forms, therefore is no longer kept within the community. An example for illustration comes from the Choro ethnic community in Dong Nai province where almost all community members know how to treat common ailments, such as bleeding, insect bites and stings, stomachache, etc., and are not obliged to keep it in secrecy.¹⁸⁶ With other types of knowledge, such as knowledge on natural resource protection, agriculture, traditional craft and so on, the entire community uses and shares knowledge without obligation to keep undisclosed. This may be exemplified by the technique of brocade weaving of Hmong people in Lung Tam commune, Quan Ba district, Ha Giang province; maize cultivation on stone pits of ethnic minorities in Ha Giang provinces, etc. However, despite the fact that information has been extensively known to the public, in most cases, the origin of TKaGRs is clearly defined and always linked to knowledge-holding communities. In some other cases, the source is unidentifiable.

Holders may also be a group of communities as the result of cultural interaction.

¹⁸⁵ Information shared by Ass. Prof. Nguyen Van Tap, Dr. Phan Thi Nguyet Minh, Dr. Vu Truong Giang at the workshop "Policy orientation on conservation of traditional knowledge associated with genetic resources in Vietnam" under the framework of ABS project, dated October 2, 2018 in Hanoi.

¹⁸⁶ See Ngo, V. L. et al, *supra* note 166 at 278-279.

Cultural interaction between ethnic groups co-inhabiting a geographic area may result in the formation of TKaGRs shared among multiple communities. An example may be found in the case of medications collectively held by five ethnic minorities, namely Tay, Nung, San Diu, San Chay and Dao in Thai Nguyen province, as observed by Le Thi Thanh Huong and Nguyen Trung Thanh (2015). According to these authors, the mentioned communities use the same medicinal plants to treat the same diseases, such as *Co tranh* (*Imperata cylindrica*); *Mia do* (*Costusspeciosus*); *Coi xay* (*Abutilon indicum*) used to treat kidney stone; *Cho de rang cua* (*Phyllanthus urinaria*), *Dau tam* (*Morusalba*), *Nhan tran* (*Adenosma caeruleum*), *Dua dai bac bo* (*Pandanus tonkinensis*) used to treat liver disease.¹⁸⁷ However, since such TKaGRs have been known as common knowledge to the concerned communities, no mechanism has been established to manage the use and share of knowledge.

4.3.1.2. Transmission and sharing of TKaGRs

Generally, oral transmission is a fundamental way for survival of TKaGRs over centuries. Throughout history, TKaGRs, if deemed generalized knowledge, has been passed on freely to members or non-members of communities. In the case of secret knowledge, transmission of knowledge has been restricted to selected groups or individuals.¹⁸⁸ In some limited circumstances, TKaGRs was recorded in publications by different outside actors, for instance, "The Book of Muong's traditional medicines" edited by Le Xuan Ky in 1945; "The list of medicinal plants in Vietnam" by the National Institute of Medicinal Plants in 2016; "Medicinal plants and herbs of Vietnam" by Prof. Do Tat Loi in 1999; "Medicinal Plants of Vietnam" by Le Tran Duc in 1997, etc.

¹⁸⁷ Le T. T. H & Nguyen, T. T., *Research on knowledge and experiences of ethnic minority groups in Thai Nguyen province for conservation and sustainable development [Nghiên cứu tri thức và kinh nghiệm sử dụng cây thuốc của các dân tộc thiểu số ở tỉnh Thái Nguyên để bảo tồn và phát triển bền vững]*, 1(32) JOURNAL OF SCIENCES – HANOI NATIONAL UNIVERSITY [Tập chí Khoa học Đại học Quốc gia Hà Nội]. 15, at 17 (2015).

¹⁸⁸ Information from the interview with Dr. Bui Van Thanh and Ass. Prof. Nguyen Van Tap, *supra* note 183.

Apprenticeship also represents a common way by which TKaGRs has been distributed. This manner of sharing knowledge may be considered as a “traditional ABS model” that conveys the idea of access and benefit sharing in very straightforward and locally traditional ways. Nguyen Ngoc Thanh reports: "As for traditional healing, when TK is decided to hand down to the outsiders, traditional healers must prepare spiritual offerings to “report” to the ancestors. The Red Dao ethnic minority in Thai Hoc, Nguyen Binh, Cao Bang, when applying for an apprenticeship, often prepares a chicken, a bottle of wine, a can of rice (about 300g) to give to the healers as “offerings”. These offerings are not required by the healers but depend on the earnestness of the apprentices ".¹⁸⁹ Vu Truong Giang also offers the same evidence from the Thai ethnic minority in Thanh Hoa province: "medicinal knowledge may be passed on to non-family members, not necessarily healers' offspring; healers will assess the moral and the intellectual ability of applicants ... When healers pass their knowledge on to outsiders, such persons must prepare offerings to worship the healers' ancestors... Offerings include a bottle of wine, a chicken, betel and areca ... ".¹⁹⁰ These examples show that the traditional ABS model is strongly influenced by local customs and spiritual beliefs. Such practices also demonstrate the scrutiny of TKaGRs holders when sharing knowledge to a third party with the aim to ensure that users of knowledge possess needed moral and intellectual virtues to use knowledge morally and properly. It can be concluded that in the traditional model, conditions of "access" basically concentrate on spiritual, cultural, and moral elements, and similarly, in the "benefit sharing" process, TKaGRs holders do not place much emphasis on material interests, but the earnestness of the other parties.

4.3.1.3. Traditional protection of TKaGRs

¹⁸⁹ Nguyen, N. T., (ed.), FOLK KNOWLEDGE OF DAO ETHNIC MINORITY IN USES AND PROTECTION OF NATURAL RESOURCES [Tri thức dân gian của dân tộc Dao trong sử dụng và bảo vệ nguồn tài nguyên thiên nhiên] (Social Science Publishing House [Nhà xuất bản Khoa học xã hội], 2016), at 223.

¹⁹⁰ Vu, T. G., FOLK KNOWLEDGE OF THE THAI ETHNIC GROUP IN THANH HOA [Tri thức dân gian của người Thái ở Thanh Hóa] (Ethnic Culture Publishing House [Nhà xuất bản Văn hóa dân tộc], 2015), at 78.

Given the absence of formal protection over TKaGRs, holders may resort to various traditional tools to sustain their knowledge. Among others, systems of secrecy, taboos, ritual and belief act as commonly used methods to sustainably preserve and manage TKaGRs on the one hand, and to restrain the use of TKaGRs by outsiders by the other hand.

Restriction of transmission represents a fundamental way that holders recourse to for protection of TKaGRs, according to which, sharing of knowledge is limited to a certain type of groups or individuals. For instance, women in the Van Kieu community (in Quang Binh and Quang Tri provinces) who hold the birth control medication are only allowed to transmit such knowledge among women within that community and must not extend the transmission to others (even men in the community).¹⁹¹ In some other cases, the transfer of secrecy is even restricted to a particular individual, such as the oldest son of the family.¹⁹² The principle of confidentiality is furthered enforced through systems of taboos and beliefs. Communities may use customary laws to impose sanctions on those who fail to fulfill the duty of keeping secrecy. For example, the Se dang community in Tra Linh commune, Nam Tra My district, Quang Nam province would "fine by buffaloes, pigs" against those who disclosed secret medical knowledge with outsiders.¹⁹³ In some other circumstances, the punishment may have a spiritual nature. For instance, Mr. Luc Ut of the Giay ethnic minority in Thai Binh commune, Yen Son district, Tuyen Quang province, who is the

¹⁹¹ Interview with Dr. Bui Van Thanh and Ass. Prof. Nguyen Van Tap, *supra* note 184.

¹⁹² To illustrate this aspect, Ass. Prof. Nguyen Van Tap, through the interview (*supra* note 184), provided a case that happened in practice. During the course of investigating medicinal herbs in Hoa Binh province, the National Institute of Medicinal Materials approached a traditional healer named Lang Nui – a Muong ethnic person in Dan Chu commune, Ky Son district, Hoa Binh province. Mr. Lang Nui held a secret medicinal formula for treatment of male infertility, which, as the rule, is only passed on to the eldest son. However, after having inherited such secret knowledge, his son joined the army and died in the battlefield. By the early 80s, when Mr. Lang Nui passed away, his family-based knowledge was lost.

¹⁹³ Dac Thanh, *Secrete Medicinal Plant on Ngoc Linh Mountain [Thần dược trên đỉnh núi Ngọc Linh]* (May 1, 2017), <https://vnexpress.net/tin-tuc/thoi-su/than-duoc-tren-dinh-nui-truong-son-3575556-p3.html> (Last visited on August 20, 2019).

custodian for secret medical prescriptions for gout in his family line, explains that: “I was chosen by my ancestors to hand down the secret prescription for gout treatment, so I had to swear before the ancestral altar not to reveal to outsiders... If I do, my ancestors will punish me.”¹⁹⁴ Other reasons for maintaining TKaGRs secret also exist. For example, some ethnic groups worry that “if outsiders know, medicine will lose divine efficacy”¹⁹⁵ or “if outsiders know and take the medicinal plants away, people in the village have nothing to use”.¹⁹⁶ In the absence of formal recognition, the knowledge system, with recourse to locally protective instruments, proves its endurance for long history. Nonetheless, it is worth reiterating that, it is not always the case with the proper function of such a protective system, especially, given the strong influence of Western cultures into young generations – who no longer wish to maintain TK for the next generation.

4.3.1.4. The roles of traditional institutions and customary rules in the traditional ABS

Traditional social institutions of each ethnic minority group date back a long history, but still exert their influences over the daily life of local people, especially ethnic minority communities. Those institutions range from communal to family levels, such as village institution (organized and managed by the leader or prestigious persons in the community, such as village elders, wizards, traditional healers); family line (headed by family line representative) or family (headed by a man /woman depending on patriarchal or matriarchal regimes).¹⁹⁷ Historically, they take decisive roles in transferring and

¹⁹⁴ Phong Nguyet, *A Scared Healer of the Giay Ethnicity and Medications for Gout Treatment remarkably well-known in the Northern area [Thần y người Dáy và bài thuốc Gút chấn động miền Bắc]* (August 25, 2015), <https://vtc.vn/than-y-nguoi-giay-va-bai-thuoc-gut-chan-dong-mien-bac-d207780.html> (Last visited on August 20, 2019).

¹⁹⁵ Ngo, V. L., *supra* note 166 at 283.

¹⁹⁶ Dac Thanh, *supra* note 1923.

¹⁹⁷ Various sources of literature provide discussions on the structural nature of traditional institutions of ethnic minorities in Vietnam. See, e.g., Nguyen, N. T., (ed.), *supra* note 188; Ngo, V. L., *supra* note 165; Vu, T.G., *supra* note 189, Mai, V. T., FOLK KNOWLEDGE IN USES AND MANAGEMENT OVER

disseminating knowledge in each community. Nonetheless, according to recent studies, the influence of traditional institutions is diminishing, and they tend to collaborate with formal social institutions (local governments) in addressing issues arising within the community.¹⁹⁸

Information also indicates that TKaGRs, to a certain degree, is influenced by customary rules and community protocols. However, customary rules, in general, do not directly regulate access and sharing of TKaGRs, but rather focus on the sustainable use of common resources, including genetic resources to which TKaGRs is linked. For example, the Thai ethnic community in Thanh Hoa province maintain the rule that: "Every year, at the end of May (in lunar calendar), people may go to the forest to harvest bamboo shoots, but only those of the first and fourth litters, not the second and third one".¹⁹⁹ Or the Dao ethnic community in Quang Ninh province follows the customary rules that prohibit cultivating in watershed forests; and only allow timber cutting for house construction, not for sale, etc.²⁰⁰ Those systems of customary rules reflect the communities' desires to live harmoniously with nature, not to abuse or commoditize natural resources. In this regard, those customary rules, on one hand, have contributed to sustainable conservation of natural resources generally, genetic resources particularly, and on the other hand, have safeguarded the existence and development of TKaGRs. To date, although no information on customary laws or community protocols directly governing ABS has recorded, there are customary laws in some localities restricting access to TKaGRs by outsiders, for instance, Van Kieu women in Quang Binh and Quang Tri provinces keep their TKaGRs undisclosed in accordance with their customary laws.

4.3.1.5. Other distinctive factors influencing TKaGRs and the traditional ABS

NATURAL RESOURCES OF THE MUONG ETHNIC MINORITY IN THANH HOA [Tri thức dân gian trong sử dụng và quản lý nguồn tài nguyên thiên nhiên của người Mường ở Thanh Hóa] (Hanoi National University Publishing House [Nhà xuất bản Đại học Quốc gia Hà nội], 2015).

¹⁹⁸ Ngo, V. L., *supra* note 166, at 297.

¹⁹⁹ Vu, T. G., *supra* note 190, at 158.

²⁰⁰ Nguyen, N. T., *supra* note 189, at 208.

mechanism

TKaGRs has been developed based on experiences accumulated through generations of ethnic minorities and local communities, screened through “true, false” tests, selected and adapted to respond to changing environmental conditions and other needs of their lives. For example, in cultivation of upland rice, the Dao Y ethnic community in Quang Ninh province often selects soil by pushing a knife into the ground, if soil sticks to the knife, it is considered good for cultivation.²⁰¹ Or in the field of medical knowledge, the Dao Thanh Phan ethnic community in Quang Ninh province has experience in identifying medicinal plants as follows: “Plants with yellow, purple fruits are considered toxic, therefore should not be harvested. If they are processed to be medicines, such medicines may block blood circulation of patients and endanger their lives”.²⁰² Those experiences have been used repeatedly by ethnic minorities and local communities for a long history without any scientific evidence. Therefore, there are thousands of folk remedies scientifically proven to be effective, but there are also experiences that even endanger human lives.²⁰³

The reflection of spiritual factors in TKaGRs is another unique feature of TKaGRs. In various circumstances, TKaGRs is even thought to be ineffective if excluding associated spiritual factors. For instance, in the attitude of the Xtieng ethnic group in Dong Nai province, medicinal plants in the forest are believed to be shelters of the gods, thus certain rules need to be followed, such as going alone when harvesting, putting plants on the ground in horizontal direction, not cutting them into three parts.²⁰⁴ Similarly, according to Thai ethnic group in Thanh Hoa, “before harvesting, healers must pay tribute to ancestors before the alters; medicinal plants are allowed to harvest only in the morning and afternoon, not the midday; if the first harvested plant is not satisfactory for use, it should not be

²⁰¹ Nguyen, N. T., *supra* note 189, at 52.

²⁰² *Ibid*, at 205.

²⁰³ Vu, V. H. et al., *supra* note 181.

²⁰⁴ Ngo, V. L., *supra* note 166, at 283.

abandoned because it is given by ancestors and gods".²⁰⁵ Those conceptions apparently are not scientifically based, but still exist and in a certain extent contribute to reinforcing confidence in the use of TKaGRs.

4.3.2. Modern ABS

Regarding ABS as the term used in the CBD and the Nagoya Protocol which encompasses R&D elements, there are many relevant cases happening before and after the Law on Biodiversity of 2008 took effect. ABS activities in practices, to be easier to follow, are to be analyzed by each component process carried out by stakeholders.

Access

Access objectives:

In practice, access to TKaGRs is conducted to achieve one of two objectives: research for non-commercial or commercial purposes. However, this classification is not absolute because experiences show that the boundary between these two types of purposes is sometimes unclear. In the Vietnamese circumstance, scientists who had directly got involved in ABS activities stated that non-commercial research on TKaGRs would be easily transformed into commercial research from the two following ways:²⁰⁶

Firstly, the researchers who seek access to TKaGRs in the field may declare the purpose of pure investigation and collection. However, the subsequent stages, namely screening, trial experimentation and development of commercial products, frequently take place without the participation of TKaGRs holders (Researchers explain that those stages often take long-lasting time with utilization of multiple gene sources and TKaGRs, and are substantially contingent on success or failure of trial researches to develop commercial products). Additionally, given the absence of governing legal framework, free transfer of research results to third parties for commercialization seems to be very likely to happen.

²⁰⁵ Vu, T. G., *supra* note 190, at 90-91.

²⁰⁶ Information from the interview with Dr. Bui Van Thanh, *supra* note 184.

Hence, the "flow of knowledge" and the final product based on TKaGRs are often beyond the control of TKaGRs holders.

Secondly, another type of risk that commonly happens is the possibility of unauthorized use for commercial purposes by third parties following the publication of TKaGRs in scientific literature. Although being deeply aware of this risk, researchers often neglect to fully inform TKaGRs holders of the risk during the access process. This fact demonstrates the necessity of transparency for ensuring the interests of TKaGRs holders.

Locating TKaGRs related information

Due to the absence of the TKaGRs database system in Vietnam, the identification of TKaGRs and its holders has been undertaken in different ways. As for R&D companies, identification of TKaGRs is carried out through information networks of relevant industries or from acquaintances (*see the case study of the Nam Duoc company in Part 5.4.1.2*). As for scientists, identification of TKaGRs takes place on the basis of related information, such as the geographical distribution of genetic resources, or support and advice by local authorities.²⁰⁷

Involved parties in access process

Involved parties in access process include users (researchers, R&D companies, etc.), providers (TKaGRs holders – as individual, group of individuals, community or group of communities), and supervising/ coordinating bodies (in some cases), namely Department of Ethnic Minorities (under the District People's Committee), Communal People's Committee.

Form of access

Direct access: This is the type of access in which users directly negotiate with TKaGRs holders. In this type of access, if the TKaGRs holder is identified as an individual,

²⁰⁷ Information from the interview with Dr. Bui Van Thanh and Ass. Prof. Nguyen Van Tap, *supra* note 184.

group of individuals, families or extended clans, users directly meet TKaGRs holders to negotiate on conditions of access and use.

In cases where TKaGRs holders are community or group of communities, since traditional institutions within the communities normally do not take an active or direct role in governing access to TKaGRs and dealing with benefit sharing issues, and also due to the fact that representation of community in this regard is not clearly defined in both laws and practices, those wishing to access TKaGRs tend not to get the consent of all community members or representatives of the community, but meet each person individually for negotiation. Normally, users find individuals with the best knowledge and experiences and may also approach other persons to gather supplementary information (because knowledge and experiences on TKaGRs are unsymmetrically known by members of the community).²⁰⁸ Even in the case of mobilizing a large number of community members, it only serves the purpose of promoting their involvement in the stage of product commercialization and in fact, not all members participate in the process (*see the case study of the Samnam company in Part 5.4.1.3*).

Indirect access: in this form of access, users do not directly negotiate with TKaGRs holders but acquire TKaGRs related information through publications or other secondary sources. In spite of its unofficial nature, this form of access happens popularly in the practice. For instance, Ampelop medicine developed from medicinal properties of *Che day* plant - a medicinal plant associated with the traditional use of the Tay ethnic minority in Cao Bang; Berberin Chloride extracted from *Vang dang* plants of Ba Na ethnic minorities in the Central Highlands, etc. were based on indirect access to relevant TKaGRs.²⁰⁹ In such cases, since knowledge is presumably in the public domain and freely available, users do not seek consent from TKaGRs holders.

Conditions of access:

²⁰⁸ Information from interview with Dr. Bui Van Thanh and Ass. Prof. Nguyen Van Tap, *supra* note 184.

²⁰⁹ Vu, V. H., *supra* note 181.

On a case by case basis, conditions of access depend on different factors. First, the confidential or public nature of TKaGRs may determine the conditions of access. Secondly, conditions of access may be set out in customary laws or community protocols, although often in indirect manner. Also, access conditions are influenced by numerous other factors determined on the case by case basis, such as material benefits²¹⁰, ethics of users²¹¹, etc.

Benefit sharing

Regarding research for non-commercial purposes

In this type of research, benefit sharing has been carried out differently in each specific case, but normally in the form of small gifts (sourced from the budget for the field collections) to providers of TKaGRs²¹², or technical support for communities to sustainably conserve and develop relevant genetic resources²¹³.

Regarding research for commercial purposes

In this type of research, TKaGRs holders, in some cases, fully take part in all stages of the value chain, ranging from research, development to commercialization of products derived from TKaGRs. In other cases, holders solely provide TKaGRs information to users and in return get benefits resulted from commercialization of TKaGRs based products.

The first model is featured by the cooperation between companies, scientists and TKaGRs holders in researching potential values of TKaGRs, developing products and

²¹⁰ Dr. Bui Van Thanh shared during interview (*supra* note 184) that he ever experienced the case where ethnic minority people required a relatively large amount of money (10-15 million Vietnam dong) in exchange for disclosure of TKaGRs related information.

²¹¹ Dr. Phan Thi Nguyet Minh, Institute of Asia Pacific cooperation shared the story of a pharmaceutical company that was refused to access TKAGRS due to moral reason (at the workshop “Directions for conservation of TKAGRS in Vietnam” held on October 2, 2018).

²¹² Interview with Dr. Bui Van Thanh (*supra* note 184)

²¹³ Information from Ms. Phan Thi Nguyet Minh at the workshop, *supra* note 211.

promoting the commercialization of products. This model is exemplified by the chain of cooperatives growing medicinal plants and extracting medicinal properties thereof to produce traditional products, which have been run by ethnic minority communities in the Northwest of Vietnam (including Lao Cai, Yen Bai, Ha Giang, Thai Nguyen, Quang Ninh provinces...) with technical support and collaboration of Ass. Professor Tran Van On and colleagues in the Hanoi University of Pharmacy and DKPharma company²¹⁴; or the case of Sapa Napro company which cooperates with local ethnic people to exploit and commercialize traditional bathing products (*see the case study of Dao Spa company*). In this model, the users share benefits to TKaGRs holders in the forms of: 1/Monetary benefits, including money to collect raw materials, dividend payments, labor payments, consultant payments, monetary contribution to funds for communities' welfare; 2/Non-monetary benefits, including the provision of training courses or capacity building programs.

In the second model, TKaGRs holders do not directly get involved in the value chain, but merely provide information. The case of Nam Duoc company (in Part 5.4.1.2) illustrates this model where the users share benefits mostly in monetary form, including up-front payments or milestone payments based on business operating results.

In practices, benefit sharing has no criteria to evaluate the fairness and equity, almost all the cases are based on a subjective calculation of involved parties on the value of TKaGRs.

The roles of competent state bodies in the ABS context

Although there have been no legal provisions thus far stipulating roles and authorities of competent state bodies in ABS processes, local authorities of some localities

²¹⁴ Thu Quynh (2016). *Community internal strengths in agricultural developments of ethnic minorities [Nội lực cộng đồng trong phát triển nông nghiệp vùng dân tộc thiểu số]*, (December 7, 2016), <http://tiasang.com.vn/-khoa-hoc-cong-nghe/Noi-luc-cong-dong-trong-phat-trien-nong-nghiep-vung-dan-toc-thieu-so-10277> (Last visited August 10, 2019).

in fact still actively engaged in the process.²¹⁵ Firstly, local authorities acted as the bodies granting permission for every research activity, especially those involving ethnic minority peoples, taking place within the respective locality. Aside from such administrative procedures, local authorities also actively supported the potential users in collecting general information on TKaGRs and identifying its holders to facilitate access. During the access stage, local authorities, in many cases, took the role of coordinating or facilitating if needed. Furthermore, local authorities might also take part in benefit sharing negotiation and in some cases directly got benefits therefrom (under the form of fund for the community's welfare).

4.4. Summary

Vietnam is well-known for its mega-biodiversity, associated with which is abundance of TK nurtured and developed by ethnic minorities and local communities. In the traditional context, TKaGRs exercises its functions and maintains its existence through traditional ways of transmission and sharing, as well as various manners of protection. TKaGRs has also engaged in ABS transactions, whether in good faith or in bad faith of users.

The chapter provided a background on TKaGRs and relevant ABS relations taking place in both traditional and modern settings. It showed the distinctiveness in approach to TKaGRs related concepts in Vietnam. Accordingly, TKaGRs, TKaGRs' holders and TKaGRs' ownership has been interpreted in consideration of both social and political perspectives with a view to ensuring the alignment between the national legal provisions and the international commitments, despite some gaps revealed during the application of those concepts in practice.

The chapter indicated a long tradition of access and benefit sharing in relation to TKaGRs within local contexts. It explored the ways in which TKaGRs holders establish

²¹⁵ Information from interview with Dr. Bui Van Thanh and Ass. Prof. Nguyen Van Tap (*supra* note 184).

their ownership over their knowledge and transmit it to insiders or outsiders. It also figured out efforts made by holders themselves to protect their knowledge from misappropriation without recourse to formal systems. The involvement of cultural factors, such as customary rules or beliefs, was stressed as a critical contributor to ABS relations in local contexts.

The chapter also brought an insight into emerging practices of ABS concerning TKaGRs in terms of R&D. In fact, ABS transactions have taken place voluntarily with the participation of relevant actors, namely TKaGRs providers, users and local state bodies. Mutual agreement and customary rules are primary ground for procedures, conditions and terms of access and benefit sharing. Likewise, goodwill from both parties serves as the determinant of “fair and equitable” benefit sharing. During those processes, local state bodies actively got involved as facilitators, or in some exceptional cases, as a party of benefit sharing schemes, although no legal provisions specify their roles in ABS relations.

CHAPTER 5:

THE VIETNAMESE LEGAL FRAMEWORK

GOVERNING ABS IN RELATION TO TKaGRs²¹⁶

The last chapter dealt with the background of ABS related to TKaGRs in Vietnam. The next chapter follows by presenting the current legal framework regulating the subject matter. The chapter starts with a brief explanation on the Vietnamese legal system for the audiences' sake in understanding the sources of law, the hierarchical legal value of each legal document, and the transformation of the international commitments into the national system. After that, the analysis of the framework governing ABS concerning TKaGRs is provided. Due to the absence of specific legislations related to TKaGRs and fragmentation of legal provisions at stake, the author do not arrange the analysis in each element of ABS related to TKaGRs, but assort related legal provisions into three groups, namely directly governing framework, partly governing framework and relevant provisions, for analysis. Discussions are further advanced in the last part with the case analysis as the starting point for examining the compatibility between laws and practices in the next chapter.

5.1. Brief introduction to the Vietnamese legal system

Throughout a long history involving colonial eras and revolutions in both political and economic spheres, the Vietnam legal system was profoundly influenced by foreign ideas derived from China, France, the former Soviet bloc, and recently, by

²¹⁶ Contents of this chapter were partly published in two journal articles of the author with the title “Patent protection over traditional knowledge associated with genetic resources in Vietnam: the case of traditional medical knowledge”, *supra* note 17, and “Establishment of a registration system for traditional medical knowledge in Vietnam: Conventional or sui generis approach for future reform?” (37(1) JOURNAL OF HUMAN AND SOCIO-ENVIRONMENTAL STUDIES. 21 (2019)).

the Western philosophy of capitalism in the wake of the market-based orientation.²¹⁷ Generally, Vietnam follows the civil law system with written laws serving as the primary source of law. According to the Law on Promulgation of Legal Documents of 2015, the system of legal documents consists of the following types of document (arranged by hierarchical legal validity):

- Legislations (Constitution, Acts, Resolutions of the National Assembly);
- Ordinance, Resolution of the Permanent Committee of the National Assembly;
- Orders, Decisions of the State President;
- Decrees of the Government;
- Decisions of the Prime Minister;
- Resolutions of the Justices Council of the Supreme People's Court and the Circulars of the Chief Justice;
- Circulars of the President of the Supreme People's Procuracy;
- Circulars of Ministers or Heads of Ministry-equivalent Agencies;
- Decisions of the State Auditor General;
- Joint Resolutions of the Permanent Committee of the National Assembly or the Government and the central offices of socio-political organizations;
- Joint Circulars of the Chief Justice of the Supreme People's Court and the President of the Supreme People's Procuracy; those of Ministers or Heads of Ministry-equivalent Agencies and the Chief Justice, President of the Supreme

²¹⁷ Dao, T. U., Basic Information for Legal Research – A Case Study of Vietnam, in *DOING LEGAL RESEARCH IN ASIAN COUNTRIES - CHINA, INDIA, MALAYSIA, PHILIPPINES, THAILAND, AND VIETNAM* (Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO) (Ed.), Asian Law Series volume 23, 2003), at 195-228.

People's Procuracy, those of Ministers or Heads of Ministry-equivalent Agencies;

- Legal documents of Local People Councils and People Committees.

Along with written laws, customary rules and judicial precedents may apply in some limited circumstances as legally prescribed. Concerning customary rules,²¹⁸ their application is deemed legally acceptable in cases where no provision of laws or agreement of involved parties exists.²¹⁹ Judicial precedents²²⁰ have subordinate value to written laws and customary rules, taking effect only if legal provisions, agreements of involved parties and customary rules are absent, and application of analogy of law or fundamental principles of the Civil Code is impossible.²²¹

²¹⁸ Art. 5(1) of the Civil Code defines customary rule as “rules of conduct obvious to define rights and obligations of persons in specific civil relations, forming and repeating in a long time, recognized and applying generally in a region, race, or a community or a field of civil”

²¹⁹ Art. 5(2) of the Civil Code.

²²⁰ Following the explanation of the boundary between the common law and civil law system in note 130, it is further explained in this point that the distinction between the two systems is not always absolute. Specifically, civil law countries still use judicial precedents, although not considering them as the main source of law. In Vietnam, judicial precedents were introduced into the legal system in 2014 through the Law on Organization of People's Courts of 2014. However, judicial precedents in Vietnam find themselves distinct from those in common law countries. In Vietnam, the principle of *stare decisis* as applied in common law countries does not exist. The courts themselves shall not make judicial precedents. Rather, some typical judgements collected and proposed from lower courts shall be examined and selected by the Supreme Court's Council of Justices to be the recognized legal precedents. It is indeed a process through which the Supreme Court directs lower courts on the uniform enforcement of the law. See Resolution 04/2019/NQ-HDTP dated June 18, 2019 of the Supreme Court's Council of Justices on process for selecting, publishing and applying precedents.

²²¹ Article 6 of the Civil Code provides: “(1). In cases where an issue rises under scope of civil law which it is neither provided for by law nor agreed upon by the parties nor, nor applied by practices, analogy of law shall apply. (2). In cases where it is impossible to apply analogy of law as prescribed in Clause 1 of this Article, basic principles of civil law provided for in Article 3 of this Code, *case law*, and justice shall apply.” (Emphasis added).

Legal norms in international treaties/conventions may also be a source of law. Depending on the requirements, contents and nature of a treaty to which Vietnam is a Party, provisions of that treaty may be applied directly if considered clear and specific enough for application. Otherwise, the transformation of such norms into domestic laws (by amending, supplementing, canceling or promulgating legal documents) is a requirement before applying.²²² In cases where a legal document (except the Constitution) and a ratified treaty govern the same matter but show contradictions, the provisions of the treaty shall prevail.²²³

5.2. The ABS scheme under the Vietnamese laws and regulations and its relevance to TKaGRs

Vietnam joined the CBD in 1995. Accordingly, the commitment of establishing the national ABS mechanism, as one of three pillars set forth under the CBD framework, became an opportunity as well as a challenge for Vietnam in the course of conservation and sustainable development of GRs and associated traditional knowledge. The Law on Biodiversity promulgated in 2008 demonstrates the Government's enormous endeavor to codify ABS international commitments into the domestic framework. The year of 2014 marked a further adherence of Vietnam into the international ABS framework by the Government's ratification to the Nagoya Protocol. Since then, numerous efforts have been made by the Government to establish an appropriate mechanism for the protection of TKaGRs in the ABS context.

²²² Article 6(2) of the Law on Treaties of 2016 reads: "On the basis of the requirements, contents and nature of a treaty, the National Assembly, the State President or the Government, when deciding to consent to be bound by the treaty, shall also decide on the direct application of the whole or part of the treaty to natural, judicial or other entities in case the provisions of the treaty are express and specific enough for implementation; or decide or propose to amend, supplement, cancel or promulgate legal documents for the implementation of the treaty."

²²³ Art. 6(1) of the Law on Treaties.

5.2.1. The ABS framework before the Law on Biodiversity

Before the adoption of the Law on Biodiversity, Vietnam had no legal provisions expressly applicable in the ABS context. Only some aspects of ABS, such as the right to manage, research, exploit, patent or commercialize GRs, were mentioned in legal documents scattering in different fields of law.

The Ordinance on Plant Varieties and Ordinance on Livestock Breeds 2004 are among relevant legal documents worth looking at. The two documents guarantee the legitimate rights of organizations and individuals who engage in activities concerning the fields of plant varieties and livestock breeds. Accordingly, they may be subject to incentive policies when investing in collection, preservation, research, production and so on with respect to plant varieties and livestock breeds.²²⁴ They may also enjoy the rights to control their innovations, exclude others from unauthorized use of such innovations and lawfully benefit from the exploitation of them. Additionally, these legal documents stipulate conditions for production and commercialization of plant varieties and livestock breeds, including quality standards and labeling requirements.²²⁵

For other types of GRs, the Fishery Law of 2003, for example, provides the legal scheme for the exploitation and sustainable use of aquatic resources by organizations and individuals. While promoting aquaculture on seas, lakes, reservoirs, lagoons, ponds and other natural water sources, the law sets up the frame to rule out the acts of unsustainable exploitation of aquatic resources. Specifically, the law stipulates the obligation to regenerate aquatic resources and lays down conditions for fisheries, including fishing license. In the like manner, the Law on Forest Protection and Development of 2004 protects the rights of individuals and organizations to exploit and enjoy the benefits of forest

²²⁴ Art. 5 of the Ordinance on Plant Varieties and Art. 5 of the Ordinance on Livestock Breeds.

²²⁵ Chapter 4&5 of the Ordinance on Plant Varieties and Chapter 4&5 of the Ordinance on Livestock Breeds.

products, but such rights must be exercised in correspondence with the obligations to protect and develop forest under respective regulations.²²⁶

It should be reiterated that the first introduction of the ABS regime in Vietnam took place in 2008 with the adoption of the Law on Biodiversity. The above mentioned legislations just illustrate very minor aspects of the ABS mechanism. They have yet to demonstrate the bilateral relations or benefit sharing scheme between the providers and users of GRs. In other words, before 2008, related legislations were just grounded on the concept of conservation and sustainable development *per se*. In particular, scarcely did these legislations mention TKaGRs and involvement of ethnic minority groups in relation to GRs.

5.2.2. The ABS framework after the Law on Biodiversity

The Biodiversity Law 2008 sets aside Section 1 of Chapter V for ABS provisions. It specifies ownership of GRs, procedures and requirements for PIC and MAT; substantial contents of ABS contracts and key elements of benefit sharing. Decree No. 65/2010/ND-CP of the Government dated June 11, 2010 further details and guides the implementation of such ABS provisions with three (3) articles, namely Article 18, 19 and 20, but not specific enough for enforcement in practice.²²⁷ This fact gave rise to the promulgation of Decree No. 59/2017/ND-CP of the Government dated May 12, 2017 on the management of access to Genetic Resources (GRs) and the sharing of benefits arising from their utilization. The decree details sequences and procedures for ABS processes, clarifies rights and obligations of involved actors, specifies the authority of relevant competent agencies in granting

²²⁶ The paragraph covers main relevant contents of the Fishery Law of 2003 and Law on Forest Protection and Development of 2004.

²²⁷ It is reported that during the period in which ABS related provisions of Decree 65/2010/ND-CP took effect, there was no case of ABS registered at the national competent agencies. Source: Biodiversity Conservation Agency - Ministry of Natural Resources and Environment, *Report on identification of national ABS priorities and proposal for enhancement of ABS management in Vietnam*, 2013 (unpublished document).

license, monitoring compliance and functioning other tasks of state management on the issue. Related procedures and other substantial contents of the ABS mechanism are briefly described as below.

5.2.2.1. Access

Firstly, clarification of the terms “provider” and “user” should be provided. The provider in the ABS context is defined as “an entity appointed by the State to manage genetic resources as specified in Article 55(2) of the Law on Biodiversity”.²²⁸ Actors falling within the aforesaid category to qualify as “providers” include: (1). Conservation zone management units managing genetic resources in conservation zones; (2). Heads of biodiversity conservation facilities, scientific research and technological development institutions, and genetic resource storage and preservation establishments managing their own genetic resources; (3). Organizations, households and individuals managing genetic resources located within land, forests or water surface that they are assigned to manage and use; (4). Commune-level People’s Committees managing genetic resources in their localities, except the cases specified above.²²⁹ Besides, a definition of the user is provided as: “an entity engaging in access to genetic resources for their utilization under the sovereignty of the Socialist Republic of Vietnam”.

According to the legal requirements specified in the mentioned documents, those wishing to access GRs must comply with the following procedural sequences: (1). Registering access to GRs; (2). Entering into written contracts on access to GRs and benefit sharing with organizations, households or individuals assigned to manage GRs; (3). Applying for licenses for access to GRs.²³⁰

Regarding registration for access, the potential user of GRs must file an application to the permitting authority. The Ministry of Agriculture and Rural Development (MARD)

²²⁸ Art. 3(1) of Decree 59/ND-CP/2007.

²²⁹ Art. 55(2) of the Law on Biodiversity.

²³⁰ Art. 57 of the Law on Biodiversity.

and the Ministry of Natural Resources and Environment (MONRE) act as competent state agencies approving registration and granting permits for access (corresponding types of GRs under the state management of each ministry).²³¹ After getting official approval for registration of access, the permit holder (or so-called the user) shall negotiate and conclude mutually agreed terms (under the form of contract) with the provider. In principle, the contract must contain the following details:

1. Purpose of access to genetic resources;
2. Genetic resources to be accessed and volume of genetic resources to be collected;
3. Place of access to genetic resources;
4. Plan on access to genetic resources;
5. The transfer of the results of the survey and collection of genetic resources to a third party
6. Activities of research and development or production of commercial products using genetic resources;
7. Participants in research and development or production of commercial products using genetic resources;
8. Place for conducting research and development or production of commercial products using genetic resources;

²³¹ Art. 6 of Decree 59/2007/ND-CP demarcates the authority between MARD and MONRE as follows:
 “1. The Ministry of Agriculture and Rural Development shall issue, extend and revoke the permit relating to genetic resources of crop varieties, breeds of livestock and aquatic animals and varieties of forest trees;

2. The Ministry of Natural Resources and Environment shall issue, extend and revoke the permit relating to genetic resources not specified in Clause 1 this Article.”

9. Sharing of benefits with the State and related parties, including the distribution of intellectual property rights over invention results on the basis of access to genetic resources and traditional knowledge copyrights on genetic resources.

After conclusion, the concluded contract must be certified by the People's Committee of commune where natural genetic resources are located. Then, the user proceeds to the next step by filing the application for the permit of access to the permitting body (MARD or MONRE depending on the types of GRs). The permitting body shall decide to or not to grant permit of access after conducting an inspection to examine the satisfaction of legal requirements, impacts of access to genetic resources on the biodiversity, economics and society; and applicant's capacity for access to and benefit sharing arising from genetic resources.

5.2.2.2. Benefit sharing

In accordance with the Biodiversity Law, benefit arising from access to GR must be shared to three parties: 1- The State; 2- Organizations, households and individuals who are assigned to manage GR; 3- Organizations and individuals licensed for access to GR and related parties as prescribed in the licenses.²³² MAT between involved parties shall be the primary basis for benefit sharing. However, Decree 59/2017/ND-CP provides an indicative list of monetary and non-monetary benefits as suggestions for involved parties to decide types of benefits to be shared.²³³ Furthermore, the decree sets up the minimum ratio of 1%

²³² Art. 61(1) of the Law on Biodiversity.

²³³ According to Art. 21(2) of Decree 59/2017/ND-CP:

- Monetary benefits may include (non-exhaustive list): Access fee(s) per sample collected; IP license payment; Royalties; Lump sum or milestone payments as agreed; Other monetary benefits.
- Non-monetary benefits may includes (non-exhaustive list): Result exchange; Participation collaborative research and commercial product development; Access to relevant information about science and technology; Technology transfer to the Provider of genetic resources; Training in improvement of research capacity and development of genetic resources; Joint

of the total annual revenue earned from GRs derived product as the sharing of monetary benefits. In the case of transfer of GRs or use of IPRs developed from GRs, it requires the minimum ratio of 2% of the total value got from the transfer or the use of such IPRs. The decree also rules the principles for benefit sharing as follows: 1 – When the Provider is Commune-level People's Committees, or Protected Area's Management Board, or state-managed facilities for storing or preserving genetic resources, or Biodiversity conservation facilities, or institutes for research and technology development assigned by the State: 30% of the shared money shall be paid to the genetic resources Provider; and the remaining 70% of the shared money shall be paid into the State Budget to be used for conservation and sustainable use of biodiversity; 2 - When the Provider is an individual or a household or an organization assigned to manage genetic resources by the State: 50% of the shared money shall be paid to the genetic resource Provider; and 50% of the shared money shall be paid into the State Budget to be used for conservation and sustainable use of biodiversity.²³⁴

5.2.2.3. The relevance between the existing ABS regime and TKaGRs

It is noteworthy that the ABS regime as analyzed above is designed expressly for access and sharing of benefits resulting from the utilization of GRs (without any reference to TKaGRs). It should also be borne in mind that the mentioned mechanism is the only ABS scheme existing in Vietnam to date. The related sequences and procedures appear to be the mixture of civil and administrative nature, which is derived from the supreme principle of the State's sovereign right over GRs and the State's authority to act as the representative of the entire-people ownership. However, as noted in Chapter 2, while GRs manifest themselves as physical, or tangible properties, they actually contain genetic information – or intangible property – that transforms them into genetic materials of “actual or potential value”. Otherwise speaking, GRs embrace both tangible and intangible elements despite their appearing as physical entity. Notwithstanding this distinct feature,

ownership of relevant intellectual property rights corresponding to the ratio of the achievements to the basis for access to genetic resources; Other non-monetary benefits.

²³⁴ Art. 22 of Decree 59/2017/ND-CP.

the ABS regime in Vietnam seems to deal solely with the tangible element of GRs without regard to knowledge associated with them. It is evidenced by the fact that ethnic minorities and local communities holding knowledge associated with GRs are not given any standing to participate in ABS processes. They cannot declare the status as “the provider” if they are not assigned by the State to manage or use land, forest or water surface where GRs are located,²³⁵ although in fact, they might be in the position to conserve and develop such GRs through generations. Further, they are not recognized as a party entitled to sharing of benefits resulting from the utilization of GRs.²³⁶

The same problem occurs regarding sharing of benefits related to GRs in the protected area. While the law, following the community-based approach, encourages local communities residing in buffer zones of the protected area to participate in the joint effort to conserve biodiversity generally and GRs particularly, no sharing is provided to them in the benefit sharing scheme. When reading Article 3(1) and Article 55(2) of the Law on Biodiversity together, it is inferred that only the Management board of the protected areas and organization assigned to manage GR in the protected areas play as the provider, and are entitled to benefit sharing arising therefrom. It amounts to excluding local communities from ABS processes.

In brief, a relatively clear framework was established in Vietnam to govern the access and sharing of benefits arising out of the use of GRs. However, it fails to handle the link between GRs and TKaGRs. No acknowledgement is provided for the concerted effort of ethnic minorities and local communities in the conservation and development of GRs throughout history. This fact stands as an obstacle to approach the way of access and benefit sharing related to TKaGRs.

5.3. Substantial contents of the Vietnamese legal framework regulating TKaGRs in the ABS context

²³⁵ Art. 3(1) and Art. 52(2) of the Law on Biodiversity.

²³⁶ Art. 61(1) of the Law on Biodiversity.

As indicated earlier in the preceding part, two recent decades have witnessed efforts of Vietnam in transforming ABS – related international requirements into the domestic framework. However, while a specific scheme of ABS related to GRs has been put in place, the legal framework regulating TKaGRs in the ABS context has still been in its infant stage. It should also be emphasized that, although the conventional IP framework exerts a strong influence on the implementation of the ABS regime, mostly in the negative sense, Vietnam adopted almost the same IP system of the Western origin, which does not accommodate the rights of TKaGRs holders. It is in concert with the lack of *sui generis* framework for TKaGRs protection and unclarified provisions of the ABS related to TKaGRs. Currently, relevant provisions are scattered in different legal documents, including directly governing provisions, partly governing provisions and those related to some specific aspects of TKaGRs. The table below provides the list of laws and regulations directly or indirectly governing ABS in relation to TKaGRs in Vietnam before analyzing of relevant substantial contents.

Table 5.1: Laws and regulations directly or indirectly governing

ABS in relation to TKaGRs in Vietnam

No.	Legal document	Promulgating body	Date of promulgation
1	Constitution of the Socialist Republic of Vietnam	National Assembly	November 28, 2013
2	Civil Code No. 91/2015/QH13	National Assembly	November 24, 2015
3	Code of Civil Procedure No. 92/2015/QH13	National Assembly	November 25, 2015

No.	Legal document	Promulgating body	Date of promulgation
4	Forestry Law No. 16/2017/QH14	National Assembly	November 15, 2017
5	Law on Pharmacy No. 105/2016/QH13	National Assembly	April 6, 2016
6	Law on Environmental Protection No. 55/2014/QH13	National Assembly	June 23, 2014
7	Land Law No. 45/2013/QH13	National Assembly	November 29, 2013
8	Law on Water Resources No. 17/2012/QH13	National Assembly	June 21, 2012
9	Law on Biological Diversity No. 20/2008/QH12	National Assembly	November 13, 2008
10	Law on Intellectual Property Rights No. 50/2005/QH11	National Assembly	November 29, 2005
11	Law on Forest Protection and Development No. 29/2004/QH11	National Assembly	December 3, 2004
12	Law on Cultural Heritage No. 28/2001/QH10	National Assembly	June 29, 2001
13	Decree No. 59/2017/ND-CP on management of access to genetic resources and benefit sharing arising from its utilization	National Assembly	May 12, 2017

No.	Legal document	Promulgating body	Date of promulgation
14	Decree No. 05/2011/ND-CP on ethnic minority affairs	Government	January 14, 2011
15	Decision 22/2018/QĐ-TTg on formulation and implementation of community protocols	Prime Minister	May 8, 2018
16	Decision 2085/QĐ-TTg dated October 31, 2016 of Prime Minister approving the policy to support socio-economic development of ethnic minority and mountainous areas in the period 2017-2020	Prime Minister	October 31, 2016
17	Circular 02/2017/TT-UBND guiding the implementation of Decision 2085/QĐ-TTg dated October 31, 2016 of Prime Minister approving the policy to support socio-economic development of ethnic minority and mountainous areas in the period 2017-2020	Committee of Ethnic Minority Affairs	May 22, 2017
18	Circular No. 04/2010/TT-BVHTTDL regulating the inventory of intangible cultural heritage and establishment of dossiers for inclusion the directory of intangible cultural heritage of the nation	Ministry of Culture, Sport and Tourism	June 30, 2010

No.	Legal document	Promulgating body	Date of promulgation
19	Circular 01/2007/TT-BKHCN guiding the implementation of the Decree No. 103/2006/NĐ-CP dated September 22, 2006 of the Government on detailing and guiding the implementation of a number of articles of the law on intellectual property with regard to industrial property	Ministry of Science and Technology	February 14, 2007
20	Decision No. 39/2007/QĐ-BYT on promulgating the regulation on granting “traditional medicine prescription handed over by heredity”	Minister of Health	November 12, 2007

Source: synthesized by the author

As earlier explained, due to the absence of specific legislations related to TKaGRs and fragmentation of legal provisions at stake, the author do not arrange the analysis in each element of ABS related to TKaGRs, but assort related legal provisions into three groups, namely directly governing framework, partly governing framework and relevant provisions, for analysis.

5.3.1. Directly governing framework

Biodiversity Law is the only legal document that directly mentions TKaGRs. The Law provides the definition of TKaGRs²³⁷; encourages organizations, individuals to invest

²³⁷ As provided in a previous section, Art. 3 (28) of the Law on Biodiversity defines TKaGRs as “knowledge, experience and initiatives of native people on the conservation and use of genetic resources.”.

and apply TKaGRs into conservation and sustainable use of biodiversity²³⁸; accords protection over “copyright of TKaGRs” and requests the Ministry of Science and Technology in collaboration with other relevant ministries and state agencies to provide guideline for registration of copyright of TKaGRs.²³⁹ As mentioned previously, although the Law directly stipulates the sequences and procedures of access and benefit sharing arising from the utilization of GRs, it is silent on those in relation to TKaGRs. There is solely one provision in benefit sharing scheme requiring the users to share IPRs of invention derived from accessed TKaGRs’ copyright.²⁴⁰ It should be further provided that after more than 10 years of implementation of the Law on Biodiversity, “copyright of TKaGRs” is still an odd concept without any clarification or guidance.

The related guidelines of the Law do not provide any further details on TKaGRs. Decree 59/2017/ND-CP of the Government dated May 12, 2017 assigns the Ministry of Environment and Natural Resources in collaboration with relevant ministries and agencies to formulate the Circular regulating ABS in relation to TKaGRs, but no circular has been promulgated thus far.²⁴¹

²³⁸ Art. 5 (3) of the Law on Biodiversity.

²³⁹ Literally, Art. 64 of the Biodiversity Law provides that: “1. The State protects traditional knowledge copyrights on genetic resources and encourages and supports organizations and individuals to register traditional knowledge copyrights on genetic resources. 2. The Ministry of Science and Technology shall assume the prime responsibility for, and coordinate with concerned ministries and ministerial-level agencies in, guiding procedures for registration of traditional knowledge copyrights on genetic resources.”

²⁴⁰ Art. 58 (3-i) of the Biodiversity Law

²⁴¹ In Art. 26(1,b), Decree 59/2017/ND-CP charges the MONRE with the responsibility to “Develop national databases on genetic resources, traditional knowledge associated with genetic resources and the benefit sharing arising from their utilization” and, in Art. 26(1,d) and 26(1,dd), requests it to “Provide detailed guidance on access to traditional knowledge associated with genetic resources” and “Cooperate with relevant ministries in providing guidelines for benefit sharing arising from utilization and traditional knowledge associated with genetic resources”. Hence, on the mandate of this circular, a

5.3.2. Partly governing framework

Some provisions related to TK in general, TKaGRs in particular are contained in Law on Cultural Heritage of 2001, Law on Intellectual Property of 2005 (IP law), Law on Pharmacy of 2016 and other relevant legal documents.

Law on Cultural Heritage protects folk knowledge as a specific type of intangible cultural heritage.²⁴² The Law takes the conservation-based approach with the main focus on administrative measures in stead of the rights-based approach that enables economic exploitation of TK by its holders. With holistic language, the Law regards communities holding TK as TK stewards than as TK holders. Accordingly, folk knowledge can be designated as national or international intangible cultural heritage and subject to conservation policies. Deriving from the approach of conservation, the law encourages documentation of folk knowledge for long-term conservation and research. Legal provisions governing documentation related activities are specified in the Circular No. 04/2010/TT-BVHTTDL of the Ministry of Culture, Sport and Tourism dated June 30, 2010, in which the rights and obligations of those who carry out documentation are stipulated. Although no provision on ABS is provided, the document sets a precedent in determining TK holders. Specifically, it defines intangible cultural heritage holders (including folk knowledge holders) as those who own, practise and create intangible cultural heritage.²⁴³ Besides, the principle of prior informed consent was first introduced under this document,

comprehensive regulation on ABS related to TKaGRs is to be formulated by MONRE with coordination of other relevant ministries.

²⁴² “Intangible cultural heritages”, as defined in Art. 4(1) of the Law on Cultural Heritage, are “spiritual products of historical, cultural or scientific value, being saved in memory or in scripts, handed down orally and through professional teaching, performance and other forms of saving and handing down, including speech, scripts, literary, art or scientific works, oral philology, folk oratorio, life style, way of life, rites, traditional craft know-how, *knowledge about traditional medicine and pharmacy, gastronomic culture, traditional costumes, and other folk knowledge.*” (Emphasis added).

²⁴³ Art. 2(3) of Circular No. 04/2010/TT-BVHTTDL of the Ministry of Culture, Sport and Tourism.

according to which, consent of knowledge holders is a compulsory condition for every documentation activity.²⁴⁴

Contrasting the conservation – based approach of the Law on Cultural Heritage, the *Law on Pharmacy* of 2016 directs TK protection with due regard to its property related aspects. Law on Pharmacy partly refers to TKaGRs in the field of medicine through provisions on “traditional medicine”. “Traditional medicine”, according to the Law, is “a drug composed of medicinal ingredients that are processed, prepared or blended according to traditional methods or *folk experiences*”.²⁴⁵ In which, the group of medicines produced in accordance with traditional methods is regarded as “ancient theory – based medicine” and the other group that are developed on the basis of *folk experiences* is considered as “folk medicine”.²⁴⁶ According to Vu Van Hoan *et al.* (2018), folk medicine embodies TK on the medical field. However, concerning the current legal framework for this group, the scope of application has only been limited to “traditional medicine prescription handed over by heredity”²⁴⁷ (under Decision 39/2007/QĐ-BYT dated November 12, 2007 of the Ministry of Health) that applies solely to individuals and has not been feasibly implemented.²⁴⁸

²⁴⁴ Art. 10(4) of Circular No. 04/2010/TT-BVHTTDL.

²⁴⁵ Art. 2(8) of the Law on Pharmacy.

²⁴⁶ See Vu, V. H. et al, *supra* note 181.

²⁴⁷ According to Decision 39/2007/QĐ-BYT dated November 12, 2007 of the Ministry of Health on promulgating the regulation on granting “traditional medicine prescription handed over by heredity”, “traditional medicine prescription handed over by heredity” is inter-generational medication inherited from the clan or the family, having treatment effect for a certain types of diseases, well-known in the locality, trusted by local people, and recognized by the Oriental Medicine Association, the commune health station and the provincial department of health. New medications that have been studied and used with the origin from literature, studies or personal experience do not fall within the governing scope of this regulation” (Art. 2).

²⁴⁸ According to Decision No. 39/2007/QĐ-BYT, to be granted the aforesaid certificate, the applicant must submit a number of documents, which is proven infeasible in practice, including document evidencing the effectiveness of the prescription, document certifying the legal right to inherit the prescription (Art. 4). This burden in fact seriously discouraged traditional healers from registering. Furthermore, to formally practise as a healer, a part from requirements as mentioned above, the

Moreover, the possibility to engage those who is granted the certificate on “traditional medicine prescription handed over by heredity” in ABS activities is limited since the regulation prohibits the transfer or license of rights arising from that certificate.²⁴⁹

IP Law is regarded as the field of law that greatly influences the implementation of TKaGRs protection and related ABS framework. On the account of TK nature as intangible ideas and its vulnerability to misappropriation, the objective of TK protection is very close to that of the IP system. In the Vietnamese legal system, the Law on Intellectual Property is the only legal mean that recognizes ownership over intangible assets. However, the protection of TK by the IP tool has still been controversially debated due to the incompatibility between IP system and distinctive features of TK, as commonly seen in every jurisdiction adopting the conventional IP system.

In Vietnam, the influences of the IP system on TK are almost negative.²⁵⁰ For instance, while IPRs are characterized by individuality, novelty, limitation in the scope of

certificate holder has to get other kinds of certificate, including practising certificate for traditional medicine practitioner and certification of satisfaction of requirements for medical practice (Art. 5). See Kim Oanh, *Shortcomings in Management over Practitioners of Traditional Medicines [Quản lý cơ sở hành nghề đông y còn nhiều bất cập]* (July, 14, 2014), <https://nhandan.com.vn/bandoc/item/23691202-quan-ly-co-so-hanh-nghe-dong-y-con-nhieu-bat-cap.html> (Last visited on August 20, 2019).

²⁴⁹ Art. 5(2) of Decision 39/2007/QĐ-BYT.

²⁵⁰ In the first draft of Decree on management of access and benefit sharing of GRs and associated TK (finally adopted as Decree 59/2017/ND-CP), a provision referring to IP aspects reads: “granting patent for an invention based on TKaGRs requires consent from TKaGRs holders” and “the community holding TKaGRs is entitled to sharing in IP rights associated with the invention in question in any way” (Art. 18(1,2)). Nonetheless, the National Office of Intellectual Property of Vietnam (under the Ministry of Science and Technology) – the State organ which assumes the primary responsibility in taking initiatives in IP legal reform responded: “the drafted provision sharply contradicts to the current patent framework that does not require patent applicant to show evidences of consent of TKaGRs holders or agreements of benefit sharing”. It also noted: “the unidentification of inventors or owners of TKaGRs, the trans-generational nature of TKaGRs that contrasts the limitation in the protected time of patent, and so on make granting or sharing patent rights with TKaGRs holders impossible” (Official Letter No. 9144/SHTT-PCCS of the National Office of Intellectual Property of Vietnam dated November 4, 2016

protection, TKaGRs is collective, traditional and inter-generational in nature. Only some limited fields in IPRs, such as trade secrecy, collective marks, geographical indications, could be used for TKaGRs protection. Nevertheless, due to requirements of “non-disclosure” and “applicability in business”, not every TKaGRs could be qualified for trade secret protection. Besides, collective marks and geographical indications, although positively promoting commercialization of TKaGRs, protect only the signs associated with products and do not function to prevent misappropriation or misuse of TKaGRs. In the perspective of patent, although TKaGRs itself is unpatentable, patent registration for inventions developed based on TK by outsiders in an unauthorized manner is not an uncommon phenomenon. In the course of prior art searching, according to revelation by a patent examiner in Vietnam, although the IP law includes “knowledge disclosed through use” as a source of prior art²⁵¹, Vietnamese patent examiners tend to exclude TK from prior art due to absence of visible evidences of TK existence as the base to reject claimed patents.²⁵²

As an attempt to prevent “bio-piracies”, Circular 01/2007/BKHCN dated February 14, 2007 requests the patent applicants to disclose the origin of TK if the claimed patent is based on the TK in question, but does not oblige them to show the evidence of TK holders’

providing comments on the Draft of Decree on management of access and benefit sharing of GRs and associated TK). This provision was finally removed from the official texts of Decree 59/2017/ND-CP.

²⁵¹ Under the Vietnamese Law on Intellectual Property Rights (IP Law), prior art is defined as those that “have been publicly disclosed through use or by means of a written description or any other form, inside or outside the country, before the filing date or the priority date of the invention registration application” (Art. 60(1) – IP Law). With such a wide definition of *prior art* that includes all knowledge existing under either written or oral forms, within or beyond the national jurisdiction, even known through use, the law automatically recognizes TK in general as prior art by virtue of its characteristics, such as being traditionally used by communities and transmitted orally from generation to generation, that suffice to qualify as prior art under the law. Accordingly, patent will not be given to an invention if it is merely a copy of idea from TK – even in the unwritten form or known by traditional use.

²⁵² Information from the interview with Mr. Do Duc Thinh, Vietnam Intellectual Property Office, in Hanoi (August 28, 2018).

consent to use such TK or commitment to share patent related benefits.²⁵³ Besides, no sanction is available for the case of non-compliance and failure of applicants to comply does not result in rejection of patent application.²⁵⁴

5.3.3. Relevant provisions

Apart from legal documents directly or partly governing TKaGRs, some other documents in the legal system also contribute to an environment for the implementation of the TKaGRs related framework in general and ABS relations in particular.

Regarding *general policies towards ethnic minorities and local communities*, the principle of non-discrimination based on ethnicity is enshrined in the 2013 Constitution and all related legal documents. The State's policies facilitate the involvement of ethnic minorities in all socio-economic and political aspects. They provide preferential treatment in terms of socio-economic development to ethnic minorities and those in remote and mountainous areas. Besides, those policies respect and promote the ethnic minorities' cultural identities and indigenous knowledge. To put those policies into place, the State established the mechanism of representation for the rights and interests of ethnic minorities

²⁵³ As explain in Chapter 2, at the global scale, this approach requires an amendment to the TRIPS to incorporate an obligation of disclosure of GRs or TKaGRs and submission of relevant documents evidencing prior informed consent and benefit sharing agreement in the course of patent application. Presumably, this would minimize incidents of misappropriation and supportively enforce ABS rules. Although this approach has not yet reached affirmative agreement among member of TRIPS, a number of countries have incorporated this requirement into domestic laws at varying levels. Vietnam also adopted this approach by requiring patent applicants to “disclose the origin of accessed TK if the claimed patent is based on the TK in question” and “in case where the inventor or applicant is unable to determine the origin, he/she should make a declaration about that and be responsible for the truthfulness of such declaration”.

²⁵⁴ It should be noted that the Guideline of the Ministry of Science and Technology was promulgated before the adoption of the Law on Biodiversity, therefore, the provision of “disclosure of origin” is not presumed to serve the purpose of enforcement of the Law on Biodiversity. Furthermore, in its amendment in the Circular 05/2013/TT-BKHHCN after enactment of Law on Biodiversity, the Guideline is still silent on the evidence of consent and agreements concerning access and benefit sharing.

through the National Assembly's Ethnic Council and the Government's Committee for Ethnic Minority Affair at the central level and respective committees at local levels as stipulated in the Constitution of 2013, Law on Organization of the National Assembly of 2014, Law on Organization of the Government of 2015, and Law on Organization of Local Governments of 2015. Concerning local communities (including ethnic communities), the State encourages their active involvement in the making process of macro/micro plans, policies and laws, which is exhibited in the Land Law of 2013, Forestry Law of 2017, Law on Environmental Protection of 2014 and Law on Water resources of 2012. In general, the above mentioned policies reflect the positive political will of the State in safeguarding ethnic equality, promoting traditional and indigenous cultural values, empowering ethnic minorities and local communities in all aspects of socio-economic and political spheres. This would be considered as an advantageous environment for the establishment and implementation of laws and policies on ABS in relation to TKaGRs – where the most active actors who play the key role are ethnic minority people and local communities.

Besides, the State *acknowledges roles and values of customary laws and community protocols*. Regarding customary laws, the Civil Code of 2015 recognizes local customs as a source of laws,²⁵⁵ accordingly, customs can be applied in different contexts, such as

²⁵⁵ As provided in Part 5.1, customary rules are recognized as a source of law under Art. 5 of the Civil Code. However, customary rules are subordinate to statutory laws and agreements of the involved parties in civil transactions.

interpretation of civil transactions²⁵⁶, interpretation of civil contracts²⁵⁷, determination of joint ownership²⁵⁸, or litigation²⁵⁹. Likewise, community protocols acquire legal recognition under the Decision 22/2018/QĐ-TTg of the Prime Minister dated May 8, 2018 on Formulation and Implementation of Community Protocols. Additionally, the Forestry Law explicitly admits local customs and community protocols, alongside the State's laws and policies, as the basis for management, exploitation and protection of forest.²⁶⁰

Ethnic minorities and local communities are also subject to *preferential policies in land and forest allocation*, which facilitates their management over GRs associated with TK. Policies on the allocation of land use rights to ethnic minorities in line with their customs, practices and cultural identities are prescribed by the Land Law²⁶¹ and sub-law

²⁵⁶ Art. 121(1) of the Civil Code provides that: “In cases where a civil transaction may be understood in different ways, such transaction must be interpreted in the following order: a) In accordance with the real intention of the parties at the time when the transaction was entered into; b) In a manner consistent with the objective of the transaction; c) *In accordance with the customary practice of the place where the transaction was entered into.*” (Emphasis added). Hence, in cases where intention of the involved parties and the objective of the transaction is not clear enough to interpret a civil transaction, customary rules shall be applied.

²⁵⁷ Art. 404(4) of the Civil Code reads: “Where a contract contains a term or wording which is difficult to understand, such term or wording shall be interpreted in accordance with the customary practice of the place where the contract was entered into”.

²⁵⁸ According to Art. 208 of the Civil Code, joint ownership rights shall be created as agreed by the owners or in accordance with provisions of the law or in accordance with customary practice.

²⁵⁹ Regarding rules for resolving civil cases without law provisions to apply, the Courts shall apply custom to resolve civil cases when the involved parties do not reach agreements on and the law does not provide for such cases. The custom must not be contrary to basic rules of civil legislation specified in Article 3 of the Civil Code. When petitioning Courts to resolve civil cases, involved parties may adduce customs to request the Courts to apply. Courts shall verify the applicability of the customs, ensuring the compliance with provisions of Article 5 of the Civil Code. If involved parties adduce different customs, the ones accepted at the places where the civil cases occur shall prevail (Art. 45(1) of the Code on Civil Procedure).

²⁶⁰ Art. 16 and Art. 86 of the Forestry Law.

²⁶¹ Art. 27 and Article 131(3) of the Land Law.

documents, such as Decision 2085/QD-TTg dated October 31, 2016 of the Prime Minister approving the policy to support the socio-economic development of ethnic minority and mountainous areas in the period 2017-2020, Circular 02/2017/TT-UBDT dated May 22, 2017 of the Government's Committee for Ethnic Minority Affairs guiding Decision 2085/QD-TTg. As for the allocation of forest use rights, the Forestry Law stipulates allocation of forest use rights to communities whose members having the same customs, practices and traditions associated with the forest in production, life, culture and belief.²⁶² The allocation of land and forest to ethnic minorities and local communities would facilitate the conservation of TKaGRs parallel to the preservation of associated native genetic resources and put those people and communities in active position in ABS processes related to TKaGRs. Noting the inter-relationship and inseparable nature of GRs and TKaGRs, this policy would positively support the establishment and implementation of the legal framework on ABS related to TKaGRs. However, due to the regime of entire-people ownership over land and other natural resources and the fact that policies on land and forest allocation depend on various factors, such as land and forest zoning, planning, land fund, forest fund, etc., not every community has the right to manage land and genetic resources associated with their TKaGRs. Statistics showed that the ratio of forests allocated to ethnic minorities remains modest.²⁶³ This fact may jeopardize the active position of TKaGRs holders in ABS processes.

²⁶² Art. 14(8), Art. 16, Art. 86 of the Forestry Law.

²⁶³ To, X. P. & Tran, H. N., *supra* note 177.

5.4. Enforcement of the ABS regime in practice: Case studies

5.4.1. Positive cases:

5.4.1.1. Sapa Napro and the traditional bathing medicine of Red Dao people²⁶⁴

The Red Dao ethnic community, since ancient times, has maintained and transmitted the traditional bathing medicine for medical treatment and health care within their community. The Sapa Napro company (located in Sapa district, Lao Cai province), originated from a foreign-sponsored projects with the engagement of Hanoi Pharmaceutical University and the Center for Medicinal plants and traditional medicines, has run its business since 2016 with the main product as the aforesaid traditional bathing medication.

Shareholders of the company include households in the commune who are also raw materials suppliers. They obtain benefits from purchasing raw materials and getting dividends paid annually. They also get trained in sustainable cultivation and use of medicinal plants. With regard to TKaGRs, the company gets consultation from 3-4 local female healers who possess the best knowledge on the traditional bath medication. In return, the company pays them about 2 million Vietnam dong monthly (depending on business operating results) in addition to dividends paid annually to them as shareholders.

5.4.1.2. Nam Duoc and medical prescriptions handed over through heredity²⁶⁵

Nam Duoc Pharmaceutical Company was established in 2004. The company does business mainly in planting, collecting, processing and commercializing medicinal materials.

The company has engaged in ABS activities related to TKaGRs since 2008. Taking advantage of available information from the national pharmaceutical industry and from social networks, the company has approached holders of family based traditional medicine

²⁶⁴ Source: Interview with the representative of Sapa Napro company in Hanoi (September 22, 2018).

²⁶⁵ Source: Interview with the representative of the Nam Duoc company in Hanoi (October 4, 2018).

whose children do not want to inherit such family based knowledge and thus desire to transfer to someone else. However, the TKaGRs holders who the company has approached are all individuals, not communities. The company has not encountered difficulties thus far during the course of ABS since all TKaGRs providers are individuals and belong to the King ethnic majority group.

The company has shared benefits in cash with TKaGRs holders based on sales of TKaGRs derived products. Since the company has not registered patent right on any TKaGRs derived product, the share of IP rights has not taken place.

5.4.1.3. Sannam company and knowledge on using plants as vegetables of Dao, Muong ethnic people²⁶⁶

Sannam Foods Joint Stock Company, belonging to Sannam Group, was established in 2004 with the main business objective as researching and producing safe foods and drinks from natural materials of Vietnam.

Since 2008, the company has searched and selected indigenous vegetable seeds in the Northern mountainous area. In which, the traditional knowledge on using plants of Dao, Muong ethnic minorities (in Ba Vi district, Hanoi) was one of the objects of the company's R&D activities. The company directly approached people of those communities to study their experiences in cultivating and using indigenous plants as vegetables and developed production based on such TK. The company hires labors of the concerned communities to produce and harvest vegetables and provides them with training on producing and harvesting techniques to meet food hygiene and sanitation standards. Annually, the company contributes to the fund for the commune's welfare.

²⁶⁶ Source: Interview with Ass. Prof. Nguyen Thi Ngoc Hue, former researcher of the Institute of Agricultural Science, in Hanoi (September 22, 2018) and information absorbed from the website of Agroinfo, *Safe Vegetable of Sannam – Specialty Needed to be Popularized [Rau sạch Sannam – đặc sản cần được phổ biến]*, (October 17, 2018), http://agro.gov.vn/vn/tID11016_Rau-sach-Sannam-dac-san-can-duoc-pho-bien-.html (Last visited on August 20, 2019).

5.4.1.4. Lessons learned

The ABS relations between TKaGRs holders and users as analyzed above represent positive case studies in practice. Those cases involve two types of TKaGRs providers, namely: communities (in the cases of Sapa Napro company and Sannam company) and individuals (in the case of Nam Duoc company). All users in the case studies are companies seeking commercial profits from utilizing TKaGRs. Those companies directly accessed TKaGRs on the basis of prior informed consent acquired through direct negotiation with the TKaGRs holders. In the cases of Sapa Napro company and Sannam company, the holders fully participate in all stages from research to product development and get monetary benefits in the form of raw material purchasing, dividend payments, labor payments, consultant payments, training courses and capacity building programs. Whereas, in the case of Nam Duoc company, the providers do not get involved in the business, but solely provide TKaGRs information and get shared benefits derived from the commercialization of TKaGRs based products. All the cases demonstrate transparency in access and all related stages of product commercialization. When to trigger ABS and how to determine benefit sharing hinges on results of commercialization over TKaGRs derived products.

In addition, the case of Nam Duoc company with all accessed TKaGRs belonging to individual holders reflects a trend that the user tends to approach visibly identifiable holders to avoid barriers in the ABS context. The same observation was given by Rachel Wynberg when examining the tendency of bio-prospecting contracts between pharmaceutical companies and traditional healers in the North Africa in the last decade: in the context that laws failed to accord legality and clarity on the representation of the community, pharmaceutical companies preferred to make bio-prospecting contracts with individuals.²⁶⁷ This fact should be addressed by laws so as access to TKaGRs held by the community not to be an insurmountable barrier to potential users.

²⁶⁷ Sarah A Laird (ed.), *BIODIVERSITY AND TRADITIONAL KNOWLEDGE: EQUITABLE PARTNERSHIP IN PRACTICE*, (Earthscan Publication, 2002), at 2018.

It is also worth stressing that all the cases above took place in the absence of the formal legal safeguards for TKaGRs holders, as well as the lack of official criteria to judge the equity. Nonetheless, goodwill of stakeholders, the intervention of local authorities and the involvement of relevant actors (for example, NGOs or research institutions) became crucial determinants of success. It would be a valuable suggestion in the establishment of the future ABS framework.

5.4.2. Bio-piracy cases:

5.4.2.1. Misappropriation of TKaGRs by the mean of patent²⁶⁸

Case 1:²⁶⁹

The Patent coded US 7.514.092 B2 was granted on April 7, 2009 for two co-owners, namely Laurence Dryer, Dmitri Ptchelintseu. The patented invention refers to skin treatment using any of three Asian plants, including *Stephania rotunda* (or *Binh Voi* in Vietnamese) - an endemic medical plant cultivated in Vietnam. In essence, the Vietnamese traditional use of Binh Voi for skin care was observed historically, but there's no published document recording such traditional knowledge.

Case 2:

On July 31, 2002, the Patent coded US 2003/0152651 A1 was officially granted to five co-owners: Xijun Yan, Naifeng Wu, ZhixinGuo, Zhengliang Ye, Yan Liu. The patented invention concerns the method to treat *angina pectoris* by herbal composition.

²⁶⁸ Source: Tran Van Hai, *Standard applicable for assessing novelty of patent with regards to traditional medicines [Tính mới trong việc bảo hộ sáng chế đối với bài thuốc cổ truyền]*, 2 JOURNAL OF SCIENCE [Tập chí Khoa học]. 11 (2013), , at 11-12.

²⁶⁹ Third World Network (TWN). *The Avon Lady comes collecting Asian medicinal plants Iconic cosmetics firm seeking to patent numerous Asian medicinal and food plant* (By Edward Hammond), Briefing paper No. 1, July 2012, New Delhi, available at <https://www.cbd.int/abs/side-events/icnp2/twn-icnp2-no1-Avon-Asia.pdf> (Last visited on December 20, 2019).

Later, on June 8, 2006, a patent application with similar substantial content was filed to the Vietnam Intellectual Property Office, but was rejected by the office on the following grounds: 1/ the method of treatment was identical to that of the Patent US 2003/0152651 granted in the US; 2/ the same knowledge was already in the traditional herbal formula named “Gia Vi Ich Tam Khang” that was collected and described in the book “Thien Gia Dieu Phuong” published by The Central Institute of Information and Library for Medical Sciences of Vietnam in 1989; 3/ the relevant knowledge also appeared in “*Phuc phuong dan sam phien*” herbal formula in the book “*Chinese traditional medicines*” published by the Hanoi Medical Publishing House in 1992. Hence, putting aside the rejected claim of the patent application in Vietnam, the patent granted in the United State obviously failed to satisfy the requirement of novelty because its development was based on knowledge that already existed in Vietnam and China. However, no legal response has been raised against the US’s patent thus far by interested parties.

5.4.2.2. Unfair benefit sharing: Nature’s Way with *Panaxvietnamensis*²⁷⁰

The case happened in the late 1990s in Vietnam. The involved parties include:

- Nature’s Way: An US. Pharmaceutical company
- The Government of Vietnam (represented by the Ministry of Agriculture)
- People’s Committee of Kon-tum Province (Vietnam)
- Researchers from scientific institutes and universities
- Community of the Sudang ethnic minority group in Kon-tum Province (Vietnam)

The Nature’s Way concluded an agreement with the Government of Vietnam and the People’s Committee of Kon-tum Province to access, cultivate, conduct scientific research and commercialize *Panaxvietnamensis*- an herbaceous medical plant in Ngoc Linh region, Kon-tum Province. (It is noteworthy that the central and local governments

²⁷⁰ Source: Ten Kate, K. & Laird, S.A., THE COMMERCIAL USE OF BIODIVERSITY. ACCESS TO GENETIC RESOURCES AND BENEFIT-SHARING (Earthscan, London, 1999), at 113-114.

participated in the case as the representatives for ownership over natural resources, namely *Panaxvietmenis* plants in this case. The Sedang community got involved as a party in the labor contract). *Panaxvietnamenis* was used locally and historically by Sedang ethnic group as a secret life – saving medicine for the treatment of a range of diseases and to enhance physical strengthen. The project was carried out with the involvement of Nature’s Way, central and local governments of Vietnam, researchers and local community of Sudang group, in which, in term of benefit sharing:

- 70% of profit would go to Nature’s way, 30% to the Government (Nature’s Way would cover all cost of labor, materials and other expenses)
- Researchers would get benefit from equipment funding, training and support for graduation, research exchanges with US universities, sponsorships for scientific meetings, among other things
- Sudang community would be paid labor cost to cultivate *Panaxvietnamenis*

It should be noted that the agreement neglected the role of TKaGRs of the Sudang group, and tended to treat *Panax vietnamenis* as a physical material, therefore no compensation was paid for access and utilization of the community’s TK associated with *Panax vietnamenis*. The research process came up with a number of medical products, however, as of yet, no evidence has been shown about the sharing of IPRs of those products between Nature’s Way and concerned parties, including the Sudang community.

5.4.3.3. Protection of TKaGRs by trademark: Dao' Spa case²⁷¹

Part 5.4.1.1 mentioned the successful model of Sapa Napro company. In an effort to protect the traditional products by the mean of IPRs, the company registered trademark and was granted “Dao’s Spa” Trademark for the bathing medicine on November 17, 2008.

However, products imitating Dao’s Spa medicine appeared in the market with large quantities, in which producers clearly indicated the source of product as from Dao ethnic minority, but under the name of imitators’ own businesses, not under that of “Dao’s Spa”. Therefore, although the economic loss of SaproNapro company was observed, no claim can be raised due to the absence of the IP law’s violation.

5.4.3.4. Lessons learned

The cases indicated above do not directly reflect ABS relations, but circumstances where TKaGRs is used against the will and desires of its holders. In the other words, these cases exemplify the acts of “bio-piracy” – the utilization of TKaGRs without complying with the principles of “prior informed consent” and “fair and equitable benefit sharing”. They illustrate situations where users of TKaGRs free ride the weakness of the legal system in order to use TKaGRs in bad faith.

In the first case, the misappropriation by the mean of patent stemmed from the ignorance of related parties in protection of TKaGRs and the inaccessibility of published prior art to foreign patent examiners (because documentation of TKaGRs, in this circumstance, was published in the national language (Vietnamese) and was not digitalized). The case is not directly linked to ABS though, but raises the issue on the linkage between patents and the threat of unenforceability of the “prior informed consent” and “fair and equitable benefit sharing” principles in the ABS mechanism. On that account, such linkage

²⁷¹ Source: Tran Van Hai, *Commercial exploitation of traditional knowledge – from the perspective of Intellectual property rights* [Khai thác Thương mại đối với tri thức truyền thống - tiếp cận từ quyền Sở hữu trí tuệ], 3 Journal of Scientific Activities [Tập chí Hoạt động khoa học] 54, at 54-59 (2012).

should be thoroughly dealt with by laws and practical measures to support proper functions of the ABS mechanism in practice.

In the case of Nature's way, traditional knowledge associated with the use of *Panaxvietnamenis* held by the Su dang community was not taken into account in the contract terms. The users considered *Panaxvietnamenis* merely as physical material without considering "intangible value" as traditional knowledge associated with it, therefore no compensation was paid for TKaGRs. This would also be attributable to the fact that TK on the use of *Panaxvietnamenis* was no longer under the control of the Se dang group and already spread out into the public domain, resulting in difficulties for holders to claim their rights. Participating in the case, the Se dang group was self-presented and in marginal position without any legal and technical supports.

Different from the other two cases of bio-piracy discussed above, the bio-piracy that happened in the case of Sapa Napro company was not attributed to lack of diligence or awareness. The company, in contrast, seriously concerned about preventive measures against misappropriation of TKaGRs, in which "Dao Spa" trademark was one among efforts to achieve that objective. The case shows that Trademark or other relevant IP instruments (geographical indications, for example) has only distinguishing function that could not prevent third parties from the misuse of knowledge associated with products bearing trademark.

In brief, those case studies demonstrate that bio-piracy may be attributed to three main causes. Firstly, it is the conflict between the IP system and TK that inadvertently facilitates bio-piracy of TK. Secondly, given the nature of TK as an intangible asset, the lack of a legal mechanism for recognition of ownership/stewardship over that asset unwittingly places TK into the public domain, which leaves TK holders unprotected. Thirdly, the lack of legal and technical supports in the context of imbalance of bargaining power results in outcomes unfavorable to TK holders.

TKaGRs has a long-established history with the formation even before formal institutions of state and law. However, the situation of "bio-piracy" shows that, although

TKaGRs has been governed distinctively in the traditional context, the legal protection over TKaGRs is still an important factor to protect the legitimate rights and interests of TKaGRs holders. While TKaGRs takes effect only within the boundary of traditional communities, the legal protection serves as the mechanism to curb unauthorized use of TKaGRs that may happen outside the community, and to ensure that the principles of "PIC", "MAT" are fully complied with during ABS processes.

5.5. Summary

To meet the demand in practice and to comply with the relevant international agreements to which Vietnam is a Party, the Vietnamese Government has developed the legal framework to govern ABS relations arising with TKaGRs. However, due to the complexity and sensitivity of TKaGRs related matter, the framework is still viewed as less equipped to govern the issue despite having been developed for more than ten years since the adoption of the Law on Biodiversity. Laws and regulations do provide the legal scheme for ABS in relation to GRs, but are silent on that of TKaGRs. The provisions on TKaGRs are scattered in different documents with abstract nature, which fails to govern the issue in a comprehensive manner. However, it is acknowledged that those provisions provide the background and favorable environment for further develop the framework in future reform, exemplified by precedents to establish the rights of TKaGRs holders, to enforce the principle of prior informed consent, or to respect and promote the rights of ethnic minority people and local communities.

With a view to elucidating the enforcement of the legal framework in practice, the final part presented two groups of case studies: one representing ABS transactions in good will of the involved parties, the other illustrating bio-piracies. Those case studies showed the fact that, ABS transactions, where cooperation could be reached in good faith between the involved parties, may take place without legal intervention. In other cases, however, holders hardly seek compensations or other types of remedy for unauthorized use by the outsiders. This gives rise to the need for legal reform, which is extensively discussed in the next chapter.

CHAPTER 6:

LEGAL CONSIDERATIONS FOR FUTURE REFORM

Chapter 4 showed the richness and potential values of TKaGRs and its involvement in ABS transactions in practice. In response to the demand of practice and requirements of international agreements to which Vietnam is a party, Chapter 5 denoted remarkable efforts made by the State to frame the ABS scheme within the national legal system. However, given the complex nature of TKaGRs, legal arrangements for the ABS regime related to TKaGRs are still far from reaching their objectives. Chapter 6 provides further analysis of achievements and gaps of the system before elaborating of key steps and their rationale for future legal reform.

Chapter 6 advances the study in three key ways. First, it assesses the obstacles and challenges of the system from the legal and practical viewpoints. The assessment is conducted on the basis of practical needs, requirements from related international agreements and lessons from foreign countries, which were presented in previous chapters. Second, it reviews the orientations for legal reform that has been placed in official agendas. Last, recommendations for the prospective system are proposed in the light of lessons from practice and experiences from TK-rich countries. Considering the multi-dimensional nature of TKaGRs, recommendations are not intended to tackle all related elements of the system, but focus on several aspects specific to the Vietnamese situation.

6.1. Achievements of Vietnam in developing the ABS framework related to TKaGRs

Although the legal framework of ABS arising from the utilization of TKaGRs has still been modest, there is an acknowledgement of remarkable effort made by the Vietnamese Government to codify international commitments and respond to demands of practice.

As for TKaGRs, Vietnam initially declares legal protection over TKaGRs through the mean of copyright (“*bản quyền*”) in Law on Biodiversity, despite insurmountable

barriers in the course of implementation. In general, the legal system has provided basic safeguards for some different aspects of TKaGRs, although in an un-systematic manner and without adaptation to distinctive features of TKaGRs.

Notwithstanding the lack of a specific framework governing ABS activities related to TKaGRs, Vietnam has developed a fundamental legal environment for such activities to be implemented, such as legal safeguard for the right to equity, right to participation of ethnic minorities, allocation of land and forest use rights to ethnic minorities, legal recognition of customary norms and community protocols, etc. Besides, a basic roadmap to establish the ABS mechanism with regard to TKaGRs has been put forward in the course of amendment of the Law on Biodiversity and establishment of the Law on Traditional Medicine.

6.2. Obstacles and challenges of the system

6.2.1. In the light of international commitments:

Implementation of related international commitments are still modest, illustrated by the following table:

Table 6.1: The situation of the implementation of the international commitments with regard to TKaGRs and related ABS mechanism

International commitments to be implemented		Implementation situation
1	Take measures within domestic law to ensure that TKaGRs is accessed with PIC, MAT, and benefits derived therefrom are share in fair and equitable way (Art. 8(j) of the CBD, Art. 5.5, 7 of the Nagoya Protocol)	Not yet established

International commitments to be implemented		Implementation situation
2	Support indigenous peoples and local communities in establishing community protocols, set up minimum requirements on MAT, formulate contract templates (Art. 12.3 of the Nagoya Protocol)	Not yet implemented
3	Consider the role of customary rules, community protocols in relation to TKaGRs (Art. 12.1 of the Nagoya Protocol)	The provisions of laws regarding recognition of customary rules and community protocols are scattered, not directly integrated in the ABS context in relation to TKaGRs
4	Inform potential TKaGRs' users of relevant requirements (Art. 12.2 of the Nagoya Protocol)	Not yet implemented
5	Mechanism for handling of non-compliance and dispute settlement (Art. 12.3 of the Nagoya Protocol)	Not yet established
6	Transboundary legal matters: in cases that TKaGRs is shared with communities of different countries or accessed or used in different countries ... (Art. 11.2, 16.1 of the Nagoya Protocol)	Not yet established

Source: synthesized by the author

As reflected from the table, almost all relevant commitments have yet to be implemented in Vietnam. Problems lie in the lack of a specific and comprehensive

framework governing the subject matter. Scattered provisions as existing in the legal system to date cannot be invoked to deal with the complexity and multi-faceted nature of TKaGRs in the ABS context. Accordingly, as a Party to the CBD and the Nagoya Protocol, Vietnam has not yet fully fulfilled its responsibilities under those agreements although numerous efforts for compliance have been made.

6.2.2. From the perspectives of national laws and practice

6.2.2.1. Lack of a specific system specifying procedures for ABS related to TKaGRs

Despite the popularity of ABS activities in practice, the lack of a framework directly governing relations between involved parties raises insurmountable barriers, which is demonstrated in the following aspects:

First, the scope of protection is not clearly defined in the Law. The Law provides the definition of TKaGRs as “knowledge, experience and initiatives of native people on the conservation and use of genetic resources”, which fails to set out criteria of protected TKaGRs, resulting in difficulties in identifying TKaGRs under the scope of protection and in determining legal base to terminate protection if criteria thereof are no longer satisfied.

Second, TKaGRs holders and TKaGRs users in ABS remain undefined. Additionally, legal uncertainty in recognition of ownership/ stewardship over TKaGRs also raise further difficulties in identifying holders of TKaGRs. As indicated in the review of practice provided in Chapter 4, the status of TKaGRs holders is determined merely through traditional, cultural and historical factors without any officially legal recognition. In particular, concerning TKaGRs holders as communities, the basis for determining the legal status of the community as well as mechanisms for representation, decision making, etc., in every ABS-related relation has not been addressed by laws, which inadvertently facilitates infringements upon community rights in practice. Besides, due to the absence of a definition of “utilization of TKaGRs”, criteria for determination of TKaGRs users remain obscure, which leaves the principle of “prior informed consent” and “fair and equitable benefit sharing” unpractically enforced in practice.

Third, almost all components of an ABS mechanism have still been unregulated. While access to TKaGRs may take place in different forms (direct or indirect), clarity is not given by laws as to what type of access subjects to legal requirements. The transparency during access (such as information on expected final products of the research, owners of the research, transfer of research results to the third parties, the possibility of commercialization from research results, expected risks when TKaGRs related information is transmitted beyond the community, etc.) has not legally been guaranteed, which may undermine the TKaGRs holders' control over their knowledge. In addition, benefit sharing has no criteria to evaluate fairness and equity, therefore almost all the cases are based on negotiation between involved parties in the context of imbalance in bargaining power. Furthermore, the provision that requests TKaGRs users to share IPRs over convention derived from access to TKaGRs' copyright remains unenforced due to the absence of applicable ABS mechanism as the basis for access and benefit sharing. There are no sequences, procedures, rights and obligations of involved parties in ABS processes, mechanisms to deal with non-compliance and dispute settlement provided. Additionally, roles and authorities of competent state bodies in ABS processes have yet to be stipulated, either. Although local authorities of some localities, in fact, still actively engage in the process in the roles of supervising, coordinating and supporting involved parties, the unofficial status undermines their roles and could not enforce the rights and interests of involved parties. Moreover, lack of involvement from the central state agencies results in unsystematic and unmanaged mechanism.

Fourth, laws and regulations fail to handle the inter-relation between GRs and TKaGRs. While the physical existence of GRs involves the intangible element derived from and accumulated by efforts of indigenous people and local communities throughout a long history, the legally governing system tends not to acknowledge their contribution, and even excludes them from benefit sharing process. It is demonstrated firstly by the ABS mechanism related to GRs without the involvement of TKaGRs holders. In addition, the

policy to associate the right to land, forest or water surface with GRs located therein²⁷² inadvertently separate TKaGRs and GRs if the holder is not assigned to use or manage that land, forest or water surface. This may amount to accelerating the loss of TKaGRs and depriving ethnic minorities and local people of the right to culture and the right to compensation (benefit sharing).

6.2.2.2. Problems arising from “copyright of TKaGRs”

The issue of “TKaGRs copyright” (“*bản quyền*” in Vietnamese) has still been controversially debated from the perspective of TKaGRs holders’ rights and ABS related matters. Regarding the use of the term, although “*bản quyền*” is frequently used as a daily common term to indicate “copyright” but has never been used officially in any other legal documents.²⁷³ Furthermore, other considerations have been raised with regard to the appropriateness and feasibility in the application of this approach. Specifically, there are two following points worth paying attention to.

Situating TKaGRs protection within the copyright regime: an appropriate or inappropriate approach?

Whether TKaGRs fits with the copyright regime? Let alone the collective vs. individualistic nature that makes the contrast between TKaGRs and the copyright regime, there are a number of other issues for further consideration. If perceiving TK as a creative process itself, the intellectual property’s object as the end product of a creative process²⁷⁴ could not fit to reflect the feature of TKaGRs. Furthermore, while TKaGRs exists as a part of social and cultural life, often without any physical manifestation, an attempt to document or fixate TKaGRs to satisfy the criteria of copyrightability may segregate it from the social

²⁷² Art. 55 of the Law on Biodiversity. Please refer back to the discussion and argument provided in Part 4.1.1.

²⁷³ The Law on Intellectual Property and all related legal documents use uniformly the term “*quyền tác giả*” to denote “copyright”.

²⁷⁴ Lixinski, L., *supra* note 109 at 8.

context where it takes place²⁷⁵, and therefore let it no longer be TK in its original nature. Making TKaGRs captured in a frozen or static moment, the copyright regime seems not to go further than the approach adopted by the Law on Cultural Heritage that was criticized for leaving intangible cultural heritage surviving in a “textual form”.²⁷⁶ Besides, while the IP regime in general inclines towards the commodification of intangible assets, this trend has even been perceived as “offensive” within the traditional communities²⁷⁷. If economic exploitation over TK is allowed, commodification must be carried out “in terms determined by the custodial communities”²⁷⁸. In this respect, customary norms, rather than statutory provisions, should dominate in dealing with the relationship with the third parties. However, the conventional copyright system inherently offers no room for customary rules to take role in the context related to TK in general, TKaGRs in particular.

Locating TKaGRs within the framework of copyright also amounts to putting it into the public domain after the protected term. This principle, premised on utilitarian theory, is justifiable in the sense that the monopoly rights of the author should be given in limited duration to be in balance with the public welfare.²⁷⁹ Nevertheless, TK never exists in static status, but constantly evolves and develops, for which the limited term of protection under the copyright regime is inapplicable. As the voice from the representative of the Indigenous Saami Council, the public domain is just “the construct of IP system” and indigenous people “have rarely placed anything in the so-called “public domain”.”²⁸⁰ In this sense,

²⁷⁵ Tsosie, R. *International Trade in Indigenous Cultural Heritage: an Argument for Indigenous Governance of Cultural Property*, in *INTERNATIONAL TRADE IN INDIGENOUS CULTURAL HERITAGE: LEGAL AND POLICY ISSUES*, (Christop B. Graber, Karolina Kuprecht & Jessica C. Lai (Eds), Edward Elgar, 2012), at 289.

²⁷⁶ Lixinski, L., *supra* note 109 at 133.

²⁷⁷ See note 2.

²⁷⁸ Lixinski, L., *supra* note 109, at 199.

²⁷⁹ Please refer back to the discussion and argument provided in Part 2.2.2.

²⁸⁰ Taubman, A., *supra* note 20, at 544.

natural right or inherently equity basis²⁸¹ rather than utilitarian based IP should be invoked to justify the indefinite term of protection for TK in general, TKaGRs in particular.

Needless to say, rather than finding an appropriate mechanism responsive to distinctive features of TKaGRs, the current legal system tries to fit TMK into the shape of copyright framework. Or in other words, to qualify for protection, TKaGRs must be removed its intrinsic natures to adapt to the rules set by the copyright regime.

From the TMK holders' perspective: what benefits would they truly get?

The question has still been raised as to whose benefits that the copyright system targets in this context? Since almost all TKaGRs exists in the oral form, while physical manifestation is primary condition for copyright protection, TKaGRs must be documented or fixated in material forms to qualify for protection. However, documentation or fixation of TKaGRs in scientific language is usually carried out by scientists. On that account, ownership or authorship over the copyrighted work related to TKaGRs subsequently belongs to those scientists. Whereas knowledge-holding communities who act as “information providers” are not considered as co-authors or co-owners under Article 6(3) of Decree 22/2018/ND-CP of 2018.²⁸² The same happens in the case of the TKaGRs database to which copyright law may apply (Art. 22 (2), Law on Intellectual property).²⁸³ Because database right does not provide a right over knowledge as such but the method of selection

²⁸¹ Taubman, A. & Leistner, M., *supra* note 2, at 419.

²⁸² According to Decree 22/2018 / ND-CP of February 23, 2018 guiding the implementation of a number of articles of the Intellectual Property Law regarding copyrights and related rights, organization and individuals that render supports, give comments or supply documents to others to create work shall not be recognized as authors (Art 6(3))

²⁸³ In Vietnam, sui generis framework for database rights does not exist. Therefore, database right is incorporated under the copyright regime, in which the database creator is entitled to copyright's protection over the method of selection and arrangement of data, provided that such method exhibits a certain level of creativity (Art. 22(2), Law on intellectual property)

and arrangement of data²⁸⁴, only database compilers, not TKaGRs holders who do not themselves compile the TKaGRs database, can assert their right over that database.

Experiences in a number of developing countries show that TK publication may associate with defensive protection. To be more specific, published TK may serve as prior art to destroy the novelty of invention derived from TK in question, which is considered as a defensive response towards bio-piracy. In this sense, copyright may be a responsive mechanism. However, the facilitation for the prior art searching process contributed by TKaGRs' copyright registration seems still vague if compared to arrangements designed by experienced countries in linking TK publication with patent offices (as experiences from India, Peru).²⁸⁵ In other words, this approach has not been proven effective in Vietnam because documented TKaGRs has not often been arranged or managed in a systematic manner and nor has it been directly linked to patent offices.

Another concern has been raised as to whether the registration system places any positive rights upon TKaGRs holders. Because the procedure for access to TKaGRs has still been unclear²⁸⁶, and principles for mutual agreement terms between TKaGRs holders and users have not been legally formulated yet²⁸⁷, the regime remains contingent on safeguarding scheme of the copyright system. In the purview of IP law, copyright, in essence, protects purely physical expression of knowledge (after fixation), not knowledge itself. In this sense, copyright prevents third parties from copying or duplicating protected works containing knowledge, but does not exclude them from utilizing or exploiting such knowledge, even for commercial purposes, because such knowledge itself is not subject to copyright protection. Therefore, copyright cannot be invoked to protect positive rights of TKaGRs holders. Whereas, customary rules for TKaGRs protection as their *de facto*

²⁸⁴ *Ibid.*

²⁸⁵ Please refer back to the discussion in Part 3.4.

²⁸⁶ As of yet, the guideline on Access to TKaGRs has not yet promulgated by state agencies in charge.

²⁸⁷ *Ibid.*

existence have no legal value outside the territory of traditional communities. The only link to positive rights of TKaGRs holders is obligation of TKaGRs users to share IP rights over invention resulted from accessing TKaGRs copyright (Art. 60(2,c) of the Law on Biodiversity), but the provision is of less practical value. From the perspective of the IP Law, the legal ground for sharing of patent right is the *physical* collaboration that multiple parties contribute to the patented invention²⁸⁸ and therefore knowledge from the literature (copyrighted work) finds it hard to constitute the basis to claim rights as co-inventors or co-owners. While the experience in United State showed that knowledge from the literature may constitute a ground to claim co-inventorship²⁸⁹, or Brazilian legislation requires benefit-sharing for products arising from the use of published TK or disseminated TK²⁹⁰, Vietnamese framework at issue remain unrealistic to be implemented until the current conflict between Law on Biodiversity and Law on Intellectual Property is removed, let alone the difficulties in practice of TK holders to prove a visible link between the hints triggered by the TK element and the final products developed by the third parties²⁹¹.

6.2.2.3. Lack of mechanism to recognize ownership/ stewardship over TKaGRs

From the theoretical perspective, as discussed, declaration of ownership over TKaGRs has been proven to be an arduous task due to the multi-faceted features that leave it outside the ambit of any conventional legal regimes. If regarding each element of TK as an independent object, protection scheme could be sought in various areas of law. In

²⁸⁸Art. 122(1), Law on Intellectual Property reads: “Where two or more persons have directly jointly created industrial property objects, they shall be co-authors.”

²⁸⁹ On discussion about the issue, in United State, the case law suggests that even if drugs developed from plants identified in literature surveys, this would be enough to qualify as a joint invention. See Huft, M. J., *Indigenous Peoples and Drug Discovery Research: A Question of Intellectual Property Rights*, 89 Nw. U. L. REV. 1712 (1995).

²⁹⁰See the Brazilian National System of Management of Genetic Heritage and Associated Traditional Knowledge – referred to as “SisGen” that was launched online since November 6, 2017, available at <https://sisgen.gov.br/paginas/InstallSolution.aspx> (Last visited on August 20, 2019)

²⁹¹ Carvalho, N., *supra* note 111, at 249.

dealing with the cultural aspect of TK, for example, cultural law should be one legal option with the primary stress on cultural safeguarding. Regarding property facet of TK, intellectual property law represents the “best analogy”²⁹² to TK on account of its nature as intangible ideas and its vulnerability to misappropriation. Or human right framework may also be appropriate from the sense of natural rights or equity against utilitarian theory on which IP regime is grounded. However, as Carvalho observes, “TK is not a mere sum of its separate components: it is the consistent and coherent combination of those elements”²⁹³. This holistic nature of TK makes every conventional framework fail to accommodate all of its distinct features, and therefore not be an appropriate instrument in defense of TK holders’ rights. A novel tool, therefore, should be sought to handle the issue.

This difficulty is profoundly reflected in the Vietnamese context. Although TKaGRs is widely perceived as a type of intellectual asset, the ownership/ stewardship over TKaGRs has not been stipulated by laws in the form of a property right. While the IP law system assumes to be the only mechanism to establish ownership over intellectual assets, it puts TKaGRs outside the scope of protection due to the lack of compatibility between the objects of IP protection and TKaGRs. Therefore, the protection of TKaGRs by the mean of copyright (“*bản quyền*”) as the approach adopted by the Law on Bio-diversity is proven to be inappropriate and unenforceable in practice as previously analyzed. Procedures for certification of family-based traditional medicine in Decision 39/2007/QĐ-BYT of the Ministry of Health, as analyzed, demonstrates the adaptability of the mechanism towards the unique nature of TKaGRs, however the scope of application is limited with impracticable requirements. Lack of a mechanism for recognition of ownership/ stewardship over TKaGRs amounts to placing TKaGRs into the public domain, which facilitates unauthorized use (but still perceived as legally accepted use) by any third party. TK register, as mentioned in Part 3.4, may be a possible option that has been put in place in several countries. However, the copyright registration for TKaGRs in Vietnam seems not to

²⁹² Taubman, A., *supra* note 20, at 13

²⁹³ Carvalho, N., *supra* note 111, at 249.

function to safeguard the ownership of TKaGRs holders over their knowledge, as confirmed in Part 6.2.2.2.

6.2.2.4. Conflicts between legal and traditional rights

Customary rules are regarded as the "living environment" of TKaGRs, which embodies the will, aspirations of holders and the value system of the community. As shown in the Chapter 4, customary laws, in a number of practical cases, determine the way to maintain, preserve, pass on and grant access to TKaGRs.

However, conflicts still remain between rights formed by customary laws and those recognized by formal laws. In fact, the conflicts may arise in the way of establishing property ownership; transferring, inheriting property; or determining properties of the community ownership and those of the "public domain". For instance, in the perception of indigenous people, as Tauman & Leistner quoted, public domain "is the construct of the IP system", and indigenous peoples "have rarely placed anything in the so-called "public domain"". ²⁹⁴ Even if knowledge is diffused beyond the traditional boundary of the community, it cannot be interpreted in the manner that such knowledge is freely used against the will of the knowledge-holding community. ²⁹⁵ This perception is in stark contrast to the theory of the "public domain" of IP law, which assumes that any intellectual asset outside the scope of IP protection falls under the "public domain". This leaves TKaGRs under a threat of abuse from third parties if not protected by a *sui generis* system. It signifies the need to integrate customary laws into the formal legal structures with a view to empowering customary laws beyond their traditional jurisdiction.

Although the legal recognition of customary laws is enshrined in a number of legal documents in Vietnam (as analyzed in Chapter 5), it should be noted that customary laws and community protocols do not automatically take effect in the ABS context. According to the Civil Code, although customary laws are recognized as a source of law, they are only

²⁹⁴ Taubman, A. & Leistner, M., *supra* note 2, at 544.

²⁹⁵ UNCTAD, *BioTrade and Access and Benefit Sharing: From concept to practice* (2007), at 52-57, unctad.org/en/PublicationsLibrary/ditcted2017d6_en.pdf (Last visited August 20, 2019).

applicable in the absence of statutory laws and agreements of involved parties.²⁹⁶ Concerning community protocols as regulated in the Decision 22/2018/QĐ-TTg, the scope of application covers matters arising within a residential community that is determined mainly on the geographical basis (a village or hamlet), therefore may not be suitable if TK holder is a small community or multiple communities whose residence stretching over a geographical area covering more than one village. This fact leaves customary rules unenforceable in practice generally and in the ABS context particularly.

6.3. Orientation for future reform: from the policy approach

The situation led to the fact that those TKaGRs holders who were eager to find protection for their TKaGRs did not know how and where to seek legal safeguard and what benefits they would get therefrom.²⁹⁷ It is noteworthy to pinpoint that in the Vietnamese copyright system, the Copyright Office of Vietnam (under the Ministry of Information and Communications (MOIC) – formerly named as the Ministry of Culture, Sport and Tourism) assumes the authority over Copyright registration related procedures²⁹⁸. Paradoxically, the Law on Biodiversity assigns the Ministry of Science and Technology (MOST) to take the prime responsibility in guiding procedures for registration of TKaGRs copyrights (Art. 64(2) of the Law on Biodiversity), which raises the question on the true intention/implications of law makers over this provision. Some scholars attributed the contradiction to the erroneous confusion of the law makers themselves²⁹⁹. Nonetheless,

²⁹⁶ Article 5(2) of the Civil Code.

²⁹⁷ See Cam Ha, *For traditional medicines to enrich the community* [Để những bài thuốc bí truyền làm giàu cộng đồng], (December 29, 2016) , <http://nongthonviet.com.vn/guong-mat/nhan-vat/201612/de-nhung-baithuoc-bi-truyen-lam-giau-cong-dong-692537/> (Last visited August 10, 2018) .

²⁹⁸ See Decision No 41/2008/QĐ-BVHTTDL of the Minister of Culture, Sports and Tourism dated May 15, 2008 defining functions, tasks, authorities and organization of the Copyright Office of Vietnam

²⁹⁹ See Tran Thi Huong Trang, Nguyen Dang Thu Cuc, *Access and Benefit Sharing of Genetic Resources: Challenges to Vietnam (Tiếp cận và chia sẻ lợi ích từ nguồn gen: Những thách thức đặt ra cho Việt Nam)*, Journal of Environment (Tập chí Môi trường), No. 3, 10-13 (2013). See also United

from a different angle, what if the law makers intended to design a *sui generis* system for registration of TKaGRs' copyright (under the management of the MOST) that is separate from the conventional system for copyrighted work (under the management of MOIC)? The issue remains questionable because as of yet, the MOST has not promulgated any guiding document pursuant to the respective provision of the Law on Biodiversity. Once again, the Governmental Decree No. 59/2017/ND-CP designates the Ministry of Environment and Natural Resources (MONRE) to formulate the guideline on access to TKaGRs.³⁰⁰ The confusion and overlap of authority among state agencies over a single legal matter makes implementation process unrealistic. The unworkability of the system is further illustrated by the statistic released by the Ministry of Natural Resources and Environment (MONRE) showing that since the adoption of the Law on Biodiversity, no TKaGRs copyright has been registered nor has an ABS contract on TKaGRs been officially concluded.³⁰¹ In fact, the cooperation between scientists, companies and TK holding communities still happen without official procedures. However, as a matter of fact, it does not always end up with desired outcomes in favor of TKaGRs holders due to their weak bargaining power. Even in some cases with goodwill of scientists, they were still reluctant to share their secret TK due to “lack of guarantee for their rights and interests”.³⁰² All

Nations Conference on Trade and Development, I, 13 (2016), available at http://unctad.org/en/PublicationsLibrary/webditcted2016d9_en.pdf, (Last visited August 10, 2018).

³⁰⁰ See Decree 59/2017/ND-CP of May 12, 2017 on the Management of Access to Genetic Resources and the Sharing of Benefits Arising from their Utilization, Art. 26(1,d).

³⁰¹ Information collected from the minute of the meeting on “Review and Assessment of Legal Implementation of Chapter V- Law on Biodiversity” [Thẩm định và đánh giá thực thi Chương V—Luật Đa dạng sinh học] hosted by the Vietnam Environmental Administration (Ministry of Environment and Natural Resources – MONRE) on March 13, 2018, and submitted documents and presentations on the Workshop “Tham vấn về chính sách có liên quan đến thừa kế, bảo tồn và phát triển tri thức y dược cổ truyền” [Policy Consultations on inheritance, conservation and development of traditional medical knowledge] co-hosted by the MONRE and Ministry of Health (MOH) on January 5, 2018 in Hanoi.

³⁰² *Id.*

demonstrate not only the futility of the existing system itself but also the less confidence of TKaGRs - related stakeholders on that system.

The failure of the system after 10 years of implementation urges a substantial reform. From the administrative branch, the task is mandated on Decision No. 1250/QD-TTg of the Prime Minister, dated 31 July, 2013, which requests to “find protective measures over TKaGRs”, and “establish a mechanism for access and sharing of benefits resulting out of the utilization of TKaGRs”. Additionally, Decision No. 1141/QD-TTg of the Prime Minister, dated 27 June, 2016, places the task of “studying international experiences and practices on ABS policies” as the basis to “review and reform policies on ABS”. Those documents call for TKaGRs – related initiatives from administrative bodies that assume the primary role in drafting bills on matters that fall within their respective competences.³⁰³

To date, the prospective legal reform at issue involves several projects for amendment and formulation of related legal documents. Of which, amendment of the Law on Biodiversity and establishment of the Law on Traditional Medicine has been remarked as the key determinant of the system’s development in the future. Promulgation of guidelines for TKaGRs protection and related ABS procedures was not considered a feasible option because the problem mainly arose from the Law on Biodiversity itself, which creates obstacles to the formulation of guiding documents.³⁰⁴ The legal standpoint for TKaGRs protection substantially based on the copyright regime impeded every effort for implementing approach from subordinate legal documents.

The legal project for amendment of the Law on Biodiversity has been carried out under the authority of MONRE. In its review and assessment of the current system,

³⁰³ See Art. 38 of the Law on Promulgation of Legal Normative Documents. Under the Vietnamese legal system, as for bills to be submitted by the Government to the National Assembly for approval, initiatives and drafting task are charged on ministerial agencies responsible for respective fields.

³⁰⁴ Information from the interviews with Ms. Nguyen Dang Thu Cuc and Mr. Nguyen Ba Tu - Division for Genetic Resources and Biosafety Management, Biodiversity Conservation Agency (Hanoi, August 2018 – August 2019)

MONRE acknowledged the weaknesses and shortcomings of the system and proposed directions for the legal reform.³⁰⁵ It pointed out the necessity to establish a mechanism for recognition of ownership/ stewardship of TKaGRs holders, which should be more flexible and feasible to adapt to the nature of TKaGRs. Additionally, recognition and empowerment of customary rules and community protocols was also stressed as an urgent task with a view to fulfilling commitments under the Nagoya Protocol, and on the other hand, supporting the establishment of the ABS mechanism which is substantially based on the right to self-determination of TKaGRs holders. Sequences and procedures for access and sharing of benefits resulting from the use of TKaGRs, which are still left undefined under the existing system should also be added into the official framework as the base for practical implementation.

In the same vein, the Ministry of Health (MOH) is assigned to formulate the draft bill of Law on Traditional Medicine, in which a chapter would deal with access and sharing of benefits from the utilization of folk medical knowledge. Nonetheless, due to complex nature of folk medical knowledge, such as fragmentation, difficulty in tracing the original knowledge, association with cultural and spiritual aspects, difficulty in identifying holders, etc., how large the scope of protection is and how ABS mechanism operates has not been decided yet in the draft.³⁰⁶³⁰⁷ Moreover, not touched upon yet during the drafting process is,

³⁰⁵ *Supra* note 299.

³⁰⁶ See Vu, V. H. et al, *supra* note 181.

³⁰⁷ Regarding the governing scope under the prospective Law on Traditional medicine, it should be noted that the term “folk knowledge” has a broader connotation than that of the term “traditional knowledge”. According to the Drafting Board of the Law on Traditional Medicine, the term “folk knowledge” is intended to be used to denote its feature as “experience-based”, “created and used by non-expert persons” and “orally transmitted”, which distinguishes it from “science-based knowledge” (*the Dong Y medicine, Co Phuong medicine*, for example) in the traditional medicine system. Since the use of the term emphasizes on the “experience-based” feature of folk medical knowledge in comparison with science-based one (to serve the needs of management), the drafters tend to exclude the traditional elements (customs, beliefs, etc., associated with knowledge) from the scope of protection. On that account, the objectives implied in using the term “folk knowledge” by the drafters do not fully coincide with the objectives envisaged in the framework of ABS in relation to TKaGRs.

among others, the compatibility between the two systems dealing with TKaGRs under the two prospective frameworks.

6.4. Prospective system: lessons from practice and successful models applied in the Vietnamese contemporary context

Vietnam is characterized by the socialist legal system that maintains the regime of entire people ownership over natural resources. This core principle, which conveys the sense of equity underlying a unique attribute of the communist system, inadvertently puts ethnic minority groups in a passive position in managing the GRs associated with their knowledge. The situation more or less constrains ABS relations regarding TKaGRs. Whereas, in another area of legal system, it develops the conventional IP framework substantially based on the Western idea of individualism, which restricts the access of ethnic minority groups to legal recognition of ownership over intangible assets. Those dual difficulties generate unfavorable conditions to ethnic minority groups in achieving desirable outcomes of ABS transactions. Given the rigid structure of the entire-people ownership regime and the conventional approach of the IP system, a separate *sui generis* framework dedicated to the protection of TKaGRs is a recommended option.

On-going debates in inter-governmental negotiations at issue reflect not only the politically conflicting interests between the North and the South, as earlier indicated in the Chapter 2, but also the complexity and sensitivity of TKaGRs related matters. Experiences from TK-rich countries also demonstrate that there is no perfect system. Each system shows its pros and cons in considering variable aspects of TKaGRs. Additionally, each system also exhibits its suitability and functionality in a particular context determined by political, legal and other social backgrounds of the society where it takes place. Therefore, an appropriate *sui generis* model for Vietnam would be sought in the lights of practical and legal concerns of Vietnam raised in the previous parts of this dissertation, as well as lessons learnt from the failures and successes of foreign models that may be adaptive to the Vietnamese context.

Considering substantial aspects of the framework, recommendations aim at tackling the unresolved matters representing the main obstacles that have constrained the system. Discussions, therefore, are grouped into four specific matters: scope of protection, recognition of ownership, ABS mechanism, empowerment of customary rules and community protocols. They start out with backgrounds of problems, from which appropriate measures are sought by referring experiences of countries sharing the same situation.

6.4.1. Scope of protection: Secret or disseminated knowledge?

Findings of Chapter 4 showed the diversity of TKaGRs in Vietnam, which involves both secret and diffused knowledge. It has been proven by practice that, TKaGRs, regardless of being held secretly or diffused extensively, is widely utilized as an object of R&D activities. It is also indicated in Chapter 4 that, in Vietnam, R&D activities based on disclosed TKaGRs are not uncommon phenomena, in which most of the utilized TKaGRs are still linked to specific communities. Hence, from the equity point of view, benefits should accrue to TKaGRs holders, and injustice should be rectified in cases that TKaGRs, whether as secret or disseminated knowledge, is used in authorized manners. Moreover, from an indigenous perspective, “the idea of “already disclosed” and “non-disclosed” is also a false distinction (...) open sharing, does not automatically confer a right to use the knowledge. Misuse of this knowledge, even when used by others outside of the tribe, can cause severe physical or spiritual harm to the individual caretakers of the knowledge or their entire tribe ...”³⁰⁸ It is further reinforced by the fact that the CBD and Nagoya Protocol do not restrict the scope of protection to undisclosed TKaGRs.³⁰⁹

Protection of secret knowledge, which may reflect the model of trade secret in the IP law as suggested in a number of relevant forums, would not raise much tense debate. The issue lies in whether legal protection should extend to diffused knowledge and if yes, what mechanism for enforcement should be adopted. In fact, the enforcement of protection

³⁰⁸ UNCTAD, *supra* note 293.

³⁰⁹ Morgera, E. et al., *supra* note 44 at 259.

over diffused knowledge from the perspective of ABS may face the following obstacles in practice:

- *The establishment of the link between TKaGRs and the final product of R&D activities has been proven an arduous task*: this problem happens commonly in the world and Vietnamese scientists themselves also reveal that the final stage of product development hardly retain visible “footprints” of TKaGRs on the final product³¹⁰.
- *“Flow of knowledge” after being disclosed becomes uncontrolled*: especially, for those TKaGRs documented or published in common global languages, knowledge flows beyond the national territory, for which the access and utilization of such knowledge becomes out of control of the original holders.
- *Competitiveness of complying entities might advertently be affected*: given the difficulty of control over utilization of disclosed TKaGRs, TKaGRs may be used by multiple users but not all of them properly comply with ABS rules, as the results, the competitiveness of the complying users would be undermined due to the cost of benefit sharing and other transaction costs that are not borne by non-complying competitors.

Hence, if the future regulatory framework extends its scope to disclosed TKaGRs, a further research should be done to find a feasible approach to manage access and utilization of this type of TKaGRs by indirect users. In this regard, Brazil’s experience in dealing with the matter represents a good precedent to look at. However, since the governing legislation came to effect quite recently, it still lacks evidence to demonstrate how effectively the mechanism tracking infringements of ABS rules (in respect of disclosed TKaGRs) operates.

Tackling the same issue, the approach taken by India and Peru would be another possible choice to look at. Namely, TK already described in the literature (India) or extensively known to public (Peru) would be made available to patent offices to prevent granting wrongful patent. Although the approach targets solely patent to track

³¹⁰ Interview with Dr. Bui Van Thanh, *supra* note 184.

infringements, it represents a relatively attainable measure to address the concern over disclosed TKaGRs.

6.4.2. Determination of ownership/ stewardship over TKaGRs

In terms of both theory and practice, recognition of ownership/ stewardship over TKaGRs is considered a complex issue since TKaGRs, as a distinctive intangible asset, encompasses unique features for which the protection should not be based on conventional legal regimes. As analyzed in Chapter 2, the accordance of ownership/ stewardship over TK by conventional legal instruments, such as the IP system, was criticized as a symbolic recognition because the holders hardly meet formal requirements set out by the system³¹¹; or in a different argument, it is seen as an attempt to fit TK into the shape of available but incompatible frameworks.³¹² Chapter 4 showed practice in Vietnam where ownership/ stewardship over TKaGRs is not legally guaranteed, but relied heavily on practical factors, such as cultures, history, etc. Part 6.2.2.2 of Chapter 6 also proved the malfunction of the registration system established on the IP basis. This fact puts TKaGRs holders under the risk of loss of control over their knowledge.

Following experiences from TK-rich countries, a *sui generis* system to suit unique characteristics of TK would be a policy option, of which TK register is an effective instrument. The register system serves diversified purposes depending on policies of each country, but primarily it functions as a mechanism to identify TK holders and recognize ownership/ stewardship over TK. The recognition of ownership/ stewardship over TK under the system should be in line with the characteristics of TK as well as associated cultural and customary factors, and should be operated upon the will of TK holders. Depending on national policies or the desires and initiatives of TK holders, the register system may be established and operated under the management of the central and/or local governments (like the model of Peru), or in the initiative of holders with the involvement of NGOs (like the model of the Honey Bee Network - India). It should be noted that, each

³¹¹ Drahos, *supra* note 20 at 10.

³¹² United Nations University, *supra* note 121, at 33.

model serves different purposes and functions in different contexts, as analyzed in Chapter 3. In any case, legal safeguards by explicit legal provisions should be the most crucial point to bring long-term effect to the system, rather than rely on interim measures as a response to the lack of formal recognition, as seen in the case of the Honey Bee Network³¹³.

However, given the fact that TKaGRs and the status of ownership/ stewardship thereof exists objectively for a long history and has been recognized by cultures, customary rules of localities, the TKaGRs registration system or any other supportive measures would not be compulsory to accord rights to TKaGRs holders, but rather plays a role as an evidence of TKaGRs ownership (similar to the model of copyright registration) and creates the information channel to invite or facilitate access of potential users.

6.4.3. ABS mechanism

Identification of TKaGRs holders

As analyzed, TKaGRs register functions as a supportive measure to recognize ownership/ stewardship over TKaGRs, thereby facilitating identification of TKaGRs holders and significantly supporting access of potential users.

It is articulated in Chapter 2, from the theoretical point of view, and in Chapter 4, from the practical point of view, that TKaGRs is presumably collective in nature. Even if custodied by individuals, it is considered to be linked to a specific community and to be bound by the traditional context embedded in that community. Therefore, with regard to the TKaGRs holder as an individual or a family, while recognizing their individual rights over TKaGRs, the link of such TKaGRs with the communities of origin should also be acknowledged to consider benefit sharing if ABS concerning such TKaGRs takes place.

In respect of the TKaGRs holder as a community, a legal mechanism should be established for a traditional institution or otherwise a collectively established entity to represent the whole community in every legal relation arising in the ABS context. In the author's opinion, the mechanism to establish community representation in the Land Law

³¹³ See the Honey Bee Network, Part 3.3.1.

and Law on Forest Protection and Development (that should be adjusted to fit unique nature of TKaGRs) would be a good reference so as for a representing entity to act on the behalf of the whole community, while still ensuring participation of the community in the whole ABS process. However, such a mechanism should be specifically placed in the ABS context rather than generally be applied as in the current system.

Access related matters

Regarding the way to locate information of TKaGRs and its holder as the base for access, the TKaGRs registration system, once again, would be useful to provide potential users with information on TKaGRs, TKaGRs holders and access conditions. In this respect, TK register established on local initiatives as seen in Peru (Local Registers of Collective Knowledge of Indigenous Peoples) is a good reference to ensure full control of local communities over their knowledge, as well as to facilitate incorporating and empowering customary rules and community protocols in the use and share of knowledge. Following such experiences, the extent to which information compiled in the register is disclosed is totally based upon the desire of TKaGRs holders.

In terms of TKaGRs holders' involvement in this process, practical evidence shows that although access to TKaGRs often takes place on the basis of the holders' voluntariness and the holders themselves are always in the position to grant PIC, there is still a lack of arrangements for guaranteeing TKaGRs holders' rights. Obviously, full participation and self-determination of TKaGRs holders could not be safeguarded in the situation of power imbalance, lack of legal certainty, lack of holders' awareness on TKaGRs value, intransparency of intended utilization of TKaGRs and potential adverse impacts of access, etc., as described in the part of practical analysis. In finding the solution for this issue, ABS models with the active involvement of local authorities, as the case of South Africa, France, India, Kenya, and Malaysia, are worthily looked at. The participation of competent authorities is expected to enhance transparency, ensure the legality and rectify power imbalance during the process.

Benefit sharing

As TKaGRs's added value to R&D activities varies case by case, from industry to industry, the mechanism of benefit sharing is suggested to be contextually flexible, instead of setting a parameter which hardly accommodates diverse natures of TKaGRs users. It reflects the approach adopted by India. Besides, given the fact that the pre-stages of product commercialization, such as screening, trial experiments, etc., may fail or succeed, or produce unexpected outcomes³¹⁴, benefit sharing should be triggered and maintained on the basis of commercialization of TKaGRs derived products, as is the case with Brazil and Malaysia. Like the access stage, transparency and full participation of TKaGRs holders in this stage is essentially a fundamental requirement to ensure that benefits would be shared in good faith and that TKaGRs is still under the control of its holders. Customary laws or community protocols may also be a basis to share benefits in accordance with the desires of TKaGRs holders.

Furthermore, practices show that TKaGRs may be custodied by individuals, groups or families but, in fact, is almost sourced from community. Similarly, the CBD's approach to TKaGRs related issues is based on the presumption of the collective nature of TKaGRs. Therefore, following experiences of Brazil and Malaysia, aside from sharing benefits to TKaGRs holders as individuals, families, a part of the benefit is suggested to accrue to the community under the form of the community welfare fund.

Roles of competent state bodies

Although there have been no legal provisions thus far stipulating roles and authorities of competent state bodies in ABS processes, local authorities of some localities in fact still actively engage in the process in the roles of supervising, coordinating and supporting involved parties. On that account, such involvements of local authorities in practice would be a basis to determine their roles and authorities in the ABS regulatory framework, specifically, they may assume the responsibilities for managing and operating the TKaGRs local registration system; consulting, supervising and coordinating to ensure transparency and legality of the ABS process. Regarding central state bodies, although their

³¹⁴ Interview with Dr. Bui Van Thanh, *supra* note 184.

engagement in ABS related to TKaGRs has not been observed thus far, they should take crucial roles in managing national TKaGRs registration system (for the defensive protection of disclosed TKaGRs as discussed), ABS register and reporting, the linkage between TKaGRs database systems and patent offices nationally and internationally, etc., as shown in international experiences.

6.4.4. Empowerment of customary rules and community protocols

The recognition of customary laws and community protocols is a contributing factor to ensure ABS mechanism to be operated in conformity with Nagoya Protocol, as the Protocol calls for Parties to consider the roles of customary laws and community protocols in national regulatory framework on ABS³¹⁵ and take measures to support indigenous peoples and local communities to establish community protocols in ABS context.³¹⁶

It is acknowledged from this dissertation that, although customary laws function effectively in governing internal affairs within their traditional territory, they fail to solve problems arising with external actors. In Vietnam, the State acknowledges the multi-ethnic nature of the nation and, to a certain extent, recognizes the legal force of customary rules of ethnic groups and local communities. However, such recognition is limited to very few circumstances arising within internal affairs of communities.

There is a growing number of countries that adopted *sui generis* systems that adapt to unique natures of TKaGRs. However, it is acknowledged that, there is no unique frame accommodating diversified natures of customary rules. The question lies in how to incorporate customary rules into the national legal framework. The voice from indigenous peoples may serve as a suggestion:

“Indigenous peoples possess their own locally-specific system of jurisprudence with respect to the classification of different types of knowledge, proper procedures for acquiring and sharing knowledge, and the rights and responsibilities which attach to

³¹⁵ Article 12.1 of the Nagoya Protocol.

³¹⁶ Article 12.5 of the Nagoya Protocol.

possessing knowledge, all of which are embedded uniquely in each culture and its language. Rather than trying to establish a one size fits all IP regime to protect traditional knowledge the Four Directions Council proposes that governments agree that traditional knowledge must be acquired and used in conformity with the customary laws of the people concerned.”.³¹⁷

In the ABS context, the experiences of countries which incorporate customary laws into ABS rules, as presented in Chapter 3, accommodate such expectation of indigenous peoples. Those systems demonstrate their flexibility and adjustability to local contexts whereby customary rules may take active roles in asserting community rights against outside actors. Following the experiences of those countries, a model of *sui generis* mechanism may be found within communities themselves, which would be legally empowered by the State to extend their binding effect to outsiders who wish to access to and use of communities’ intangible assets. Hence, the ABS mechanism would be framed in a specific framework, but still allow flexibility for enforcement of customary rules in the case by case basis.

6.5. Summary

After more than ten years of implementation, the framework on ABS related to TKaGRs reaches some positive outcomes and offers a promising perspective for future reform. However, it still reveals numerous shortcomings and obstacles. In the light of relevant international commitments, almost all requirements have yet to be fully fulfilled. From the perspective of national laws and practice, TKaGRs protection in the ABS context remains dubious with legal uncertainty and unclarity. It is reflected through the lack of specific governing framework, lack of a mechanism to recognize ownership over TKaGRs, and the conflict between legal and traditional rights.

³¹⁷ WIPO, Intellectual Property Needs and Expectations of Stakeholders, WIPO Report on Fact-Finding Missions (2001), at 220, <https://www.wipo.int/publications/en/details.jsp?id=283&plang=EN> (Last visited on August 20, 2019).

Discussions on the legal reform in Vietnam have been centered on the amendment of the Law on Biodiversity and the formulation of the Law on Traditional Medicine. However, although the legal reform has been put in official agendas, a clear-cutting approach has yet to be found. From practices and experiences of TK-rich countries, the author suggested that a comprehensive and coherent ABS framework, with three core factors, namely scope of protection, ABS mechanism, and customary rules, should be established. Scrutiny is needed when considering the extension of legal protection over disseminated knowledge. Following experiences from TK - rich countries, it is suggested to design an ABS system to enhance transparency and promote active involvement of TKaGRs holders. In which, due attention should be paid to the establishment of TK register as a supportive tool for the ABS mechanism. Besides, self-determination of ethnic minorities and local communities may be achieved through the incorporation of customary laws into ABS rules.

CHAPTER 7:

CONCLUSIONS

7.1. The study's findings

To date, access and benefit sharing over TKaGRs has still been a controversially debated topic. Through the literature review, this study figured out efforts made by diverse international actors to find a global legal regime governing the subject matters. Also, it reviewed various initiatives made by TK-rich countries in an attempt to bring justice by the ABS scheme related to TKaGRs.

As TKaGRs is a multi-dimensional concept and approach to protection varies across cultures, regions, and countries, there is no “one size fits all” framework at both national and global scales. Each nation, region or community takes its own way towards TKaGRs’ protection and sharing, including the desire to share extensively or to keep undisclosed to prevent misappropriation. Some may put the utmost value on sacred factor, but others may consider more about economic potential derived from TKaGRs. Therefore, flexible approach stands as a trend to accommodate the diversity of cultures and the right to self-determination of the community. Besides, given the intangible nature of TKaGRs that makes it prone to bio-piracy and weak bargaining power of TKaGRs holders, a legal safeguard, such as TK register, and administrative interventions, including ABS procedures with the involvement of administrative bodies, are of significance. Those issues are crucial determinants for the certainty, clarity, and equity of the system.

In its central part, the study showed the richness and distinctive features of TKaGRs in Vietnam, as well as its practical values in all socio-economic, cultural, scientific, and ecological aspects. Based on which, the study examined the actual demands and practices regarding ABS activities related to TKaGRs in Vietnam. It found the existence of the traditional model of access and benefit sharing in local contexts. It pinpointed the practice

and the manners in which modern ABS transactions take place in the absence of a specifically legal scheme.

By examining the legal framework governing the subject matter, the study acknowledged the achievements Vietnam has made in the legal perspective to protect TKaGRs generally and to promote ABS activities particularly. However, the study also observed big gaps in the system. Firstly, the system lacked a specific and comprehensive framework expressly addressing ABS related to TKaGRs. The problem was illustrated through the vague governing scope, the absence of procedures for access and benefit sharing, the lack of a mechanism to deal with non-compliance or dispute, and the failure to address the interrelation between TKaGRs and GRs in the ABS mechanism. Secondly, the unworkability of the system was also attributed to the malfunction of the “TKaGRs’ copyright”. Since copyright – an IP tool – hardly fits distinctive features of TKaGRs, and in essence protects only physical expression of copyrighted works without extending to the knowledge as such, it cannot serve as an appropriate mechanism to protect TKaGRs holders’ rights. Thirdly, TKaGRs holders found no legal base to claim the ownership/stewardship over their TKaGRs. Fourthly, inadequate recognition of customary rules under the formal system led to conflicts between legal and traditional rights, especially those arising in the ABS context. This fact inadvertently facilitates infringements over the rights and interests of TKaGRs holders by those who use such TKaGRs for commercial or non-commercial purposes.

7.2. Recommendations

The study showed that the establishment of a coherent and systematic legal framework for regulating ABS arising from the use of TKaGRs in Vietnam is an urgent need. Acknowledging the dual difficulties derived from the entire-people ownership regime and the Western model of IPRs imported into the Vietnamese legal system, a separate *sui generis* framework for the protection of TKaGRs is a recommended option. Such a *sui generis* framework allows protection of TKaGRs in a distinctive manner without

intervening in the core principles dominating the entire-people ownership regime and the IP system.

Specifically, based on lessons from the past and experiences from TK-rich countries, the study suggested a *sui generis* framework with the main focus on three substantive matters, namely the scope of protection, the ABS mechanism, and the roles of customary rules. Accordingly, the scope of protection should clearly define protectable TKaGRs, and scrutiny should be taken in extending protection to disseminated knowledge. If protection of disseminated knowledge is an option, such protection should take place in feasible or achievable ways, such as digitalization of knowledge to avoid unauthorized patenting as applied in India or Peru.

It is also suggested to establish an ABS mechanism with the coherent, comprehensive, and transparent legal framework governing each stage of the ABS processes, which guarantees the right to self-determination of TKaGRs holders and encourages their full involvement in the ABS processes. As facilitation for the ABS regime, supportive measure, especially TK register, is also a recommendable method to ensure the enforceability of the system. In acknowledging the historical and cultural factors associated with TKaGRs, the register system should be voluntary in nature and serve as a tool to declare (not to confer) the rights of TKaGRs holders over their knowledge.

In such contexts, customary rules are recommended to be incorporated into ABS rules, which defines the conditions of access to, use of TKaGRs, as well as the manners to share benefits. In this sense, as the author noted, the ABS mechanism would be framed in a specific framework, while still allowing flexibility for enforcement of customary rules with the binding effect extended to outsiders participating in ABS relations.

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ANNEX I

The reviewed legal documents of Vietnam and the selected countries

1.1. Vietnamese legal documents

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- Civil Code No. 91/2015/QH13, passed by the National Assembly on November 24, 2015
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- Law on Organization of Local Governments No. 77/2015/QH13, passed by the National Assembly on November 20, 2014
- Law on Organization of the National Assembly No. 57/2014/QH13, passed by the National Assembly on November 20, 2014
- Law on Environmental Protection No. 55/2014/QH13, passed by the National Assembly on June 23, 2014
- Land Law No. 45/2013/QH13, passed by the National Assembly on November 29, 2013
- Law on Water Resources No. 17/2012/QH13, passed by the National Assembly on June 21, 2012
- Law on Biological Diversity No. 20/2008/QH12, passed by the National Assembly on November 13, 2008

- Law on Intellectual Property Rights No. 50/2005/QH11, passed by the National Assembly on November 29, 2005
- Law on Forest Protection and Development No. 29/2004/QH11, passed by the National Assembly on December 3, 2004
- Law on Cultural Heritage No. 28/2001/QH10, passed by the National Assembly on November 29, 2005
- Decree No. 59/2017/ND-CP on management of access to genetic resources and benefit sharing arising from its utilization of the Government dated May 12, 2017
- Decree No. 05/2011/ND-CP on ethnic minority affairs of the Government dated January 14, 2011
- Decision 22/2018/QĐ-TTg on formulation and implementation of community protocols of the Prime Minister dated May 8, 2018
- Decision 2085/QĐ-TTg dated October 31, 2016 of Prime Minister approving the policy to support socio-economic development of ethnic minority and mountainous areas in the period 2017-2020 of the Prime Minister dated October 31, 2016
- Circular 02/2017/TT-UBND guiding the implementation of Decision 2085/QĐ-TTg dated October 31, 2016 of Prime Minister approving the policy to support socio-economic development of ethnic minority and mountainous areas in the period 2017-2020 of the Committee of Ethnic Minority Affairs dated May 22, 2017
- Circular No. 04/2010/TT-BVHTTDL regulating the inventory of intangible cultural heritage and establishment of dossiers for inclusion the directory of intangible cultural heritage of the nation of the Ministry of Culture, Sport and Tourism dated June 30, 2010
- Circular 01/2007/TT-BKHCN guiding the implementation of the Decree No. 103/2006/NĐ-CP dated September 22, 2006 of the Government on detailing and guiding the implementation of a number of articles of the law on intellectual property with regard to industrial property of the Ministry of Science and Technology dated February 14, 2007

- Decision No. 39/2007/QĐ-BYT on promulgating the regulation on granting “traditional medicine prescription handed over by heredity” of the Ministry of Health dated November 12, 2007

1.2. Foreign legal documents

Brazil

- Law 13.123 on Access to Genetic Heritage and Associated Traditional Knowledge (2015)
- Decree 8772 on Access to Genetic Heritage and Associated Traditional Knowledge (2016)

France

- Law 1087 on Biodiversity (2016)
- Decree 848 on access and benefit sharing (2017)

India

- Biological Diversity Act (2002)
- Biological Diversity Rules (2004)

Kenya

- Protection of Traditional Knowledge and Cultural Expressions Act, 2016

Malaysia

- Access to Biological Resources and Benefit Sharing Act (2017)

Peru

- Law 27,811 introducing a Protection Regime for the Collective Knowledge of Indigenous Peoples derived from Biological Resources (2002)

The Philippines

- The Indigenous Peoples Rights Act (1997)
- Implementing Rules and Regulations (2010)

South Africa

- Biodiversity Act (2004)
- Regulations on Bioprospecting and ABS (2015)

ANNEX II

Lists of interviewees and interview questions

2.1. List of interviewees

- Ass. Prof. Nguyen Van Tap – Former researcher of the Institute of Medicinal Plants (Hanoi, September 22, 2018)
- Ass. Prof. Nguyen Thi Ngoc Hue – Former researcher of the Institute of Agricultural Science (Hanoi, September 22, 2018)
- Dr. Bui Van Thanh - Institute of Ecology and Biological Resources (Hanoi, October 3, 2018)
- Dr. Vu Truong Giang – Academy of Politics Region 1 (Hanoi, October 2, 2018)
- Dr. Do Duc Thinh – Vietnam National Office of Intellectual Property (Hanoi, August 28, 2018)
- Ms. Nguyen Dang Thu Cuc and Mr. Nguyen Ba Tu - Division for Genetic Resources and Biosafety Management, Biodiversity Conservation Agency (Hanoi, August 2018 – August 2019)
- The representative of Sapa Napro Company (Hanoi, September 22, 2018)
- The representative of Nam Duoc Company (Hanoi, October 4, 2018)

2.2. List of interview questions

For biospecting companies

- When did you start ABS transactions related to TKaGRs?
- On what basis have you known about TKaGRs and its holders?
- Of all TKaGRs the company has accessed, how many percentages belong to individuals, group of individuals, and communities?
- For each type of TKaGRs holders, what differences does the ABS mechanism exhibit?
- Regarding TKaGRs holder as a community, who does act as the representative? How does the decision making process take place?

- How do customary rules and other cultural factors of the location where the accessed TKaGRs is originated influence ABS processes?
- On what basis are benefit sharing carried out? What are types of benefits to be shared?
- Would you please specify the involvement of TKaGRs holders in the research, production and commercialization of TKaGRs – derived products?
- Have local authorities or any other state entities engaged in ABS processes?
- Has the company ever register IPRs based on TKaGRs? If yes, how did the company share IPRs with TKaGRs holders?

For researchers

- When did you start research involving ABS related to TKaGRs?
- Would you please share your personal opinions (based on your experiences) about the boundary between commercial and non-commercial ABS?
- On what basis have you known about TKaGRs and its holders?
- Would you please provide your personal opinions (based on your experiences) about the role of local authorities or any other state entities in the access process?
- Of all TKaGRs you has accessed, how many percentages belong to individuals, group of individuals, and communities?
- For each type of TKaGRs holders, what differences does the ABS mechanism exhibit?
- Regarding TKaGRs holder as a community, who does act as the representative? How does the decision making process take place?
- How do customary rules and other cultural factors of the location where the accessed TKaGRs is originated influence ABS processes?
- Did you provide TKaGRs holders with information regarding risks that may entail for TKaGRs' confidentiality after publication of your research? How did they respond and deal with it to control their knowledge? What are your responsibilities in this regard?
- What are types of benefits to be shared for the case of non-commercial purposes?

For Government officials engaging in policy making process and state management

- From your experiences in engaging in the policy-making process related to ABS, would you please specify the significance of Vietnam's adherence into international agreements on ABS related to TKaGRs?
- Would you please share the current situation (regarding actual implementation) of ABS related to TKaGRs?
- Would you please assess the main obstacles that Vietnam is facing to deal with ABS related to TKaGRs?
- Would you please specify the reason why all guiding documents related to TKaGRs have yet to be promulgated despite the mandate under the Law on Biodiversity and Decree 59/2017/ND-CP?
- Would you please specify the reason why the legal reform for ABS related to TKaGRs should start from the amendment of the Law on Biodiversity and the establishment of the Law on Traditional Medicine instead of other legal initiatives?

For Government officials responsible for IPRs issues

- Would you please specify obstacles of TKaGRs protection based on the copyright regime? Have there been any cases of registration of TKaGRs' copyright thus far?
- Have you ever processed any patent applications filed by ethnic minority people for their TKaGRs? Would you specify obstacles that they may face to register IPRs for their TKaGRs?
- In the course of examining prior art, have you searched TKaGRs as a type of prior art before granting patent to an invention of related themes? If yes, please specify the way to access information related to TKaGRs? If no, please specify the reasons?
- How many patent applications involving TKaGRs have you processed? In such cases, how did patent applicants inform of the connection between their inventions and TKaGRs? Were there any evidences on the TKaGRs' consent or access and benefit sharing schemes?

- How do you think about the link between Circular 01/2007/TT-BKHCN and the Law on Biodiversity in terms of ABS requirements?
- From your experiences, should the prospective legal system for TKaGRs protection be based on the IP regime? Should the IP regime change to adapt to the distinctive features of TKaGRs? Or should a sui generis system be a better option?